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A STATE-WIDE MILK SANITATION PROGRAM.

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During the past 18 months the Alabama State Board of Health, and the United States Public Health Service have cooperatively formulated and begun the execution of a state-wide milk program. The purpose of this paper is to discuss the conditions which make such a program necessary and to describe the program itself.

A state-wide milk sanitation program is necessary.

The necessity for a state-wide milk program is made evident by a joint consideration of the history of milk-borne disease and of the failure of the majority of municipalities to undertake without State guidance or leadership the most effective measures for its elimination.

Milk stands second only to water as a disease vehicle.

Milk is second in importance only to water as a vehicle of disease transmission. A public water supply unquestionably reaches a larger percentage of the people than any other single potential disease vehicle, but milk follows a close second. As a city grows larger its milk supplies tend to merge more and more until finally hundreds of thousands of people are supplied from one plant. It is easy to understand, therefore, why milk supplies, unless properly controlled, should be the vehicle for frequent outbreaks of disease, particularly if it is remembered that milk is a natural growing medium for certain disease-producing bacteria. Furthermore, milk is responsible for a large amount of "bovine" tuberculosis among children, a damage which is more insidious and less easily traced than that caused by the more spectacular outbreaks of epidemic disease.

Milk has caused many epidemics.

The frequency of milk-borne outbreaks of disease is well known. Surg. John W. Trask, in United States Public Health Service Bulletin No. 56, lists the following milk-borne outbreaks, collected from the literature by himself, Hart, Busey, and Kober, occurring during the 27-year period 1880 to 1907.

Disease:	Number of outbreaks
Typhoid fever.....	317
Scarlet fever.....	125
Diphtheria.....	51
Septic sore throat and pseudo-diphtheria.....	7
Total.....	500

One hundred and sixty-eight of these outbreaks were reported as occurring in the United States—equivalent to a rate of approximately six outbreaks per year. These figures are, of course, incomplete, and it must be obvious that many more outbreaks occurred than were reported in the literature.

Milk is still causing many epidemics.

During the past several months there has been made a questionnaire survey of milk-borne epidemics occurring in the registration cities of the United States during the six-year period 1917 to 1923. An advance estimate indicates that milk-borne outbreaks are still occurring in the registration cities of the United States at the rate of more than eight per year. The questionnaire has probably resulted in more nearly complete figures than those based on the previous search of the literature, but these figures nevertheless indicate that while great strides have unquestionably been made in milk sanitation by many of the larger cities, the great majority of the registration cities are still experiencing an unnecessarily high rate of milk-borne epidemics. It is seriously doubted, in fact, whether there has been much reduction in milk-borne disease in the smaller registration cities.

Most cities are doing little to prevent these epidemics.

The above conclusion is supported by a knowledge of the actual field conditions in these cities. In many of them a large portion of the milk supply has been improperly pasteurized or is still consumed raw, has been milked by milkers and handled by employees who have not been examined for the existence of carriers, is handled in utensils and sold in containers which have not been effectively sterilized, and is kept at a temperature high enough to permit rapid growth of any infective organism which may have entered.

It is easy to understand from these facts why milk-borne outbreaks are apparently as frequent to-day as they were 25 years ago. Most cities are doing little to prevent them.

This negligence is due principally to a lack of State leadership.

It seems evident that some new plan must be tried if the present slow rate of progress in milk sanitation in this great group of smaller cities is to be accelerated. One of the principal causes for the slow progress of milk sanitation in all except a few cities is the lack of organized effort, the lack of leadership. As a result of this lack of leadership most cities have taken a kind of authorship pride in designing their own milk legislation and control and therefore there is now an almost inconceivable confusion of both legislation and control. As a further result there is at present no real unity of thought as to milk sanitation among health officers.

Recently some States have realized the need for such leadership.

In recent years a few States have realized the necessity of establishing coordination and leadership in milk control, and have adopted standard milk ordinances and encouraged their cities to pass and enforce them.

It is believed that this policy, if properly formulated and executed, will do much to bring about more rapid progress in milk sanitation. The approximate standardization of milk legislation and control and the attainment of a greater unity of thought among health officers which will probably result from such a policy are obviously desirable. Furthermore, such approximate standardization of legislation and control methods will make it possible to compare the milk control work and results of one city with those of another, a thing which is now extremely difficult.

One of the States which have realized the need of an organized program is Alabama, which has adopted a program suggested by the United States Public Health Service.

One of the States which have awakened to the necessity for some such program is Alabama. In January, 1923, at the request of the Alabama State Board of Health, the United States Public Health Service entered into a cooperative plan with that State to formulate and execute a state-wide milk program. It became evident that it would be necessary to do four things:

- (1) To develop an effective type of milk legislation;
- (2) To encourage the cities of Alabama to enact it;
- (3) To insure its effective enforcement; and
- (4) To measure its results.

The above program is being put into effect in Alabama under the direction of State Health Officer S. W. Welch by Mr. C. A. Abele, Director of the Bureau of Inspection. A Public Health Service officer is acting in an advisory capacity.

The first part of the program was to design a standard milk ordinance which would stimulate safe milk production and adequate milk consumption.

The first item of the problem had, of course, to be solved before it was possible to begin upon the others. It was necessary to decide upon an effective type of standard milk ordinance, one which would promote the production of safe milk and the consumption of enough milk; and, if possible, one which could be easily adapted to the varying conditions of size of town and attitude toward pasteurization. The thought should be inserted here that it is just as important that people drink enough milk as it is that they drink safe milk.

What is meant by safe milk?

In selecting the type of ordinance it was therefore necessary to have clearly in mind just what is meant by "safe milk."

High-grade raw milk is not safe milk.

The question as to whether high-grade raw milk is "safe milk" was carefully considered and answered in the negative. Personal experience in the operation of a certified dairy has resulted in the firm conviction that no precautions humanly possible are enough to prevent at all times the transmission of disease germs through raw milk. Employees will frequently have intestinal disturbances and engage in a milking or bottling operation before disclosing their condition. They will sneeze into their hands and even under the most rigid supervision continue milking without precautions. They can be in an infective condition for a day or two prior to the occurrence of the first symptoms in certain infectious diseases. Finally, health examinations, while valuable, can not guarantee the discovery of all carriers. It was therefore decided to adopt the policy that while the safety of raw milk increases as the precautions surrounding it increase, no milk, however carefully safeguarded, can be sufficiently safe in its raw state.

High-grade raw milk, properly pasteurized or boiled, is safe milk.

What, then, can be considered to be really safe milk? Briefly, it is believed that the wisest answer to this question is: "High-grade raw milk, properly pasteurized or boiled." By "properly pasteurized" is meant "pasteurized under the regular supervision of and in apparatus approved by a competent health authority."

There are three types of milk ordinance.

It is now possible to approach the problem of developing a type of legislation which will promote the production of safe milk and the consumption of enough milk. It will be helpful to scrutinize the types of ordinance now in existence.

There are, in general, three different types of ordinance in use:

- (1) Ordinances requiring all milk to be pasteurized.
- (2) Ordinances dividing milk into two classes, "raw" and "pasteurized," and limiting the conditions under which each may be produced and sold.
- (3) Ordinances dividing milk into two classes, "raw" and "pasteurized," and providing for a number of grades in each class.

It was natural, in view of the above definition of "safe milk," to give first consideration to the first type of ordinance, which simply states the conditions under which all raw milk must be produced and then requires that all raw milk, without exception, must be pas-

teurized. This type of ordinance was rejected because it was believed that few cities could be induced to pass it, in view of the opposition to pasteurized milk which still exists in many lay minds. A standard ordinance which would be passed by but a small percentage of cities would not accomplish the greatest progress in milk sanitation for the State as a whole. It must be admitted that, while properly pasteurized milk is safer than raw milk, nevertheless high-quality raw milk is safer than low-quality raw milk.

The second type of ordinance, which provides for and regulates both raw and pasteurized milk but does not grade either, was given more serious consideration. It was finally rejected also, however, because it was feared that it did not provide as great a stimulus for the improvement of the raw milk delivered to pasteurization plants as is believed to be provided by the third type of ordinance, namely, the grading type.

A modification of the third, or grading, type is considered the best.

This type provides for and grades both raw and pasteurized milk. Two features of the usual type of milk-grading ordinance were considered undesirable. First, grading is usually based partly upon the attainment of a certain percentage upon an inspection score card. This was thought unwise, because thereby a dairyman is given a limited privilege of deciding which items of sanitation he will comply with and which ignore. Second, the usual type of grading ordinance assumes from its structure that *no* cities can be induced to pass a universal pasteurization ordinance. It provides for the sale of some raw milk by all cities. The usual type of grading ordinance was therefore modified as follows: A Grade "A" rating means compliance with *all* of a certain list of definite requirements. All raw milk, regardless of whether or not it is to be pasteurized, is graded in accordance with the same standards. A single flexible section, to be modified in accordance with local conditions, lists the grades of raw milk which must be pasteurized. A foreword recommends that all cities possible require *all* grades to be pasteurized. The grading of pasteurized milk is based partly upon the grades of raw milk that are pasteurized.

It is believed that this type of grading ordinance will result in the production of a high-grade raw supply, including that part intended for pasteurization, because the grading of milk naturally places a premium upon the highest grade and induces a corresponding effort on the part of the producer. This is believed to be an important consideration. It has too often been the practice in the past to permit *high-quality milk* to be sold raw and to require all *low-quality milk* to be pasteurized. This is psychologically wrong. We should pasteurize milk not because it is poor milk, but because pasteurization

renders any raw milk, however safe, still safer. We should regard pasteurization not as a means of converting poor milk into safe milk, but as a necessary addition to all other safeguards.

The modified grading type of ordinance should also result in the maximum percentage of pasteurization, because, under this plan, all cities which can possibly be induced to pass a universal pasteurization ordinance will have done so, and most other cities can at least be encouraged to permit the sale of milk in the raw condition only if it is Grade "A." Further, even in those cities permitting the sale of Grade "A" raw milk, the constant emphasis of the State and local health departments upon the order of safety of the various grades, with Grade "A" pasteurized milk heading the list, can not fail as time goes on to bring about an ever increasing percentage of pasteurization.

The grading type of ordinance should also tend to encourage the consumption of enough milk. An ordinance which stimulates good quality milk before pasteurization will result in good flavored milk after pasteurization. Grading milk inspires confidence in the safety of the highest grade. It is believed that people will begin to drink more milk when they begin to have confidence in its safety.

The grading type of ordinance also usually meets the approval of the dairy industry, because it automatically gives credit for effort and money expended. This is considered a strong argument in its favor.

To repeat, therefore, it was decided to adopt a grading type of ordinance containing a flexible section naming the grades of milk required to be pasteurized, and to recommend in a foreword that in all cities in which it was possible that section be worded to include all grades; but that such cities as could not be induced to take this action be at least encouraged to limit the sale of raw milk to Grade "A" raw. A copy of the ordinance which has now been adopted as standard by both Alabama and North Carolina is included as an appendix to this paper.

The second part of the State milk program was to encourage cities to pass the standard ordinance.

The second item in the Alabama milk program was to encourage the cities of Alabama to enact the type of ordinance which had been selected as standard. This part of the program is now well under way. During the past 12 months seven cities have passed the ordinance.

Experience in securing the enactment of this ordinance has suggested a number of items of policy.

The first is that it is unwise to ignore the dairy industry in securing the passage of milk legislation. The legislation should not be approached with the implied attitude that most of the dairymen in

the community are guilty of consciously foisting a dangerous product upon the consumers, and that what is needed is some drastic law to whip them into line. The legislation should not be held out as a device to force the dairymen to do what they would otherwise be unwilling to do, but rather as a device through which a dairyman can profit financially in direct ratio to the safety of his product.

The second item of policy is that the dairymen should not be told that the ordinance is being submitted for their vote of approval or disapproval and that it will be introduced only if a majority vote of approval is secured. Such a policy would place the milk sanitation welfare of the consumers more completely in the control of the dairy industry than is warranted. After all, the consumers should have the power to dictate the kind of milk they wish to buy, and the health officer is the direct representative of the consumers. A good plan seems to be to advise the dairymen in meeting that the local health department has determined to ask the city to pass the State standard milk ordinance, but that as a courtesy to the dairymen it wishes to discuss the ordinance with them, first in order that its advantages to the industry may be clear and in order to give any individual dairymen ample opportunity to register a protest with the city authorities if they so desire. It may be emphasized that the principal reason for the conference between the health department and the dairy industry is to make clear to the latter the fact that the interests of the consumers and the interests of the dairy industry are really identical in that both need insurance against milk-borne epidemics and in that both will profit by the consumption of more milk; further, that the standard ordinance is designed to accomplish both of these objects and that therefore both the consuming public and the dairy industry should be interested in promoting its passage.

The third item of policy is that the dairymen should be advised from the outset that if the city in question permits the sale of both raw and pasteurized grades the health department will necessarily take the position that Grade "A" pasteurized milk is safer than Grade "A" raw milk. If this is not made clear to the dairymen at the outset they will have the feeling, after the ordinance is in force, that the health department has misled them, and this should by all means be avoided.

The next item of policy is that the development of public opinion in favor of the milk ordinance should not be begun until after the ordinance has been informally discussed with the city authorities; otherwise the city authorities are likely to feel that the ordinance is being forced upon them.

A wise plan seems to be to discuss the ordinance with the city authorities at the outset and to make clear (1) that the health department recommends the passage of the standard milk ordinance;

(2) that it should be possible to pass the ordinance without political embarrassment to the administration; and (3) that it is the plan of the health department, in case the administration fears political embarrassment, to develop favorable public sentiment and thus insure against political embarrassment.

The third part of the program was to insure the effective enforcement of the standard ordinance.

It is believed that three principal factors determine whether or not a milk ordinance will be effectively enforced. They are (1) adequate means for enforcement; (2) adequate interest in its enforcement on the part of the local health authority; and (3) political barriers. This last factor will not be discussed in this paper, as it is not susceptible of general treatment.

With regard to the first factor, enforcement can easily be financed locally in the larger cities, and the relationship of the State health department need be advisory only.

In the case of the smaller communities, of 5,000 to 20,000 population, it may not always be either possible or advisable to provide locally the inspector and the laboratory service required for the effective enforcement of milk legislation. In these smaller communities the full-time services of a milk inspector are frequently not needed, and the part-time inspector who may be available will usually lack the technical milk training so essential to success. Further, many small towns have no laboratory service, and in many of those which have, the laboratory is not always equipped for the special requirements of milk-grading work.

For these reasons, and because of the obvious economies effected thereby, the State of Alabama has inaugurated a system of conducting the work for the smaller towns under the group plan. Under this plan an inspector-bacteriologist constantly travels a circuit of towns and makes the necessary inspections and analyses. Wherever a local inspector is available, however, who can be properly trained, his work complements the work of the State inspector. Two methods of handling the laboratory work for these smaller towns have been proposed. One plan is to make the butterfat, specific gravity, and sediment determinations in the field, and also all of the bacteriological work except the incubation and counting. The hardened plates are shipped to the nearest branch laboratory for incubation and counting. This plan avoids the necessity of shipping the refrigerated milk.

The other plan is to ship the milk itself in special refrigeration cases similar to those used in state-wide water control. The latter plan has thus far been found the most practicable.

It should be emphasized that laboratory analysis is at least as important as field inspection in milk-control work; and many smaller

communities will be able to secure more dependable laboratory service through the use of the State laboratory than by attempting to set up a local laboratory service with the small funds to which they are frequently limited.

It will be obvious, further, that the expense of milk sanitation in the smaller towns will be much less under the above plan than under a plan whereby each city provides its own staff and equipment. This is entirely irrespective of whether or not the local community is required to contribute its pro rata share of the combined cost of conducting the group plan. In that connection it is believed that ultimately each city should be required to pay for its own milk sanitation, but that, in order to stimulate the general adoption of the State-wide plan, it may be advisable for the State to defray the expenses until the work is well established and permanently "sold" to the communities.

The second factor involved in insuring the effective enforcement of the standard ordinance is, it will be remembered, an adequate interest on the part of the local health authority.

This may not always be taken for granted. In many communities not yet doing milk sanitation work the local health officer has not been able to take an active interest in milk sanitation work because of the fact that he has not known of any practicable plan which would insure effective results. All too often he has no laboratory service available, and he is convinced that the occasional field inspection of his dairies does not lead to a satisfactory solution of the milk sanitation problem.

It is necessary, therefore, for the State health department to awaken his interest in milk sanitation work by convincing him that it has to offer a workable plan which has been successful in many other towns and which should not fail in his town.

Another and a very important method of awakening the interest of the local health officer is to give the milk sanitation work in the various towns of the State the impetus provided by competition. If the State health department undertakes the grading of the milk sanitation work in the various towns of the State just as the local health officer undertakes the grading of the individual dairies supplying his community, an ambition will at once tend to be aroused in the local health officer to enter the race and to place his city at the top of the list.

This leads us logically to the fourth part of the State milk program.

The fourth part of the State milk program was to determine a method of measuring the effect of enforcing the State milk ordinance.

The fourth and last part of the program, namely, the working out of a plan for measuring the results of the enforcement of the standard

milk legislation, has been theoretically completed and is now being practically applied. The proposed plan is one which involves the determination of a municipal milk sanitation rating expressing in percentage the degree to which a city has approximated the ideal milk supply. The value of such a rating will be immediately apparent:

- (a) It will increase the value of milk sanitation surveys by making possible a clear-cut and brief expression of the results of such surveys.
- (b) It will make possible the comparison of the milk sanitation status of one city with that of another.
- (c) It will help municipal health authorities to secure the passage of modern milk legislation and to secure the necessary means for the enforcement of such legislation.
- (d) The periodic publication of the ratings for all cities in the State will serve as a spur to increased municipal milk sanitation effort.
- (e) It will promote the more extended adoption of pasteurization provided pasteurization is given a proper weight in the determination of the rating.
- (f) It will give prospective industries a tangible basis upon which to decide as to whether or not to enter a given municipality. An intelligent industry now investigates the general death rate, the water supply, the sewage facilities, and the freedom from insect-borne diseases. It is also vitally interested in the quality of the milk supplies, but there has hitherto been available no simple expression for this purpose.

The plan proposed for and being used in Alabama is simple. Each item of sanitation required for Grade "A" raw and Grade "A" pasteurized milk has been assigned a credit which is intended to approximate its relative importance. The credits total 1,000.

In computing the milk sanitation rating for a town, each item credit is multiplied by the percentage of the total milk supply of the town which complies with the item in question, the result being the "earned credit." The sum of earned credits divided by 1,000 equals the milk sanitation rating of the town.

A specimen milk sanitation rating is appended to this report. This is an actual rating as determined in the regular routine of work under the Alabama program. The town in question has approximately 85 dairies with no pasteurization plants (although under the impetus of the new regulations a pasteurization plant has recently been constructed). The milk sanitation rating of the town is, as shown, 46.2 per cent. This means that the town has achieved 46 per cent of the

ideal milk supply. It also means that the dairy industry is complying with 92 per cent of all raw milk requirements.

It should be noted that the field and laboratory work required for the determination of these ratings is precisely the same as that required for the grading of the individual dairies. The determination of the municipal milk rating therefore requires very little more time than is required for the simple enforcement of the grading ordinance. The actual office time required for the computation of the rating of the town previously referred to was two hours.

Summary.

A state-wide milk sanitation program is necessary because milk stands second only to water as a disease vehicle, has actually caused many epidemics in the past, is still causing many epidemics, and most cities are doing little to prevent these epidemics partly because of the lack of State leadership. Recently some States have realized the need for such leadership.

In Alabama a program has been adopted which was suggested by the United States Public Health Service.

The first part of the program was to design a standard milk ordinance which would stimulate safe milk production and adequate milk consumption. Safe milk was defined as "high-grade raw milk, properly pasteurized or boiled."

There are three general types of milk ordinance now in use in the United States, one requiring all milk to be pasteurized, another dividing milk into two classes, raw and pasteurized, but not grading either, and a third dividing milk into two classes, raw and pasteurized, and providing for a number of grades in each class. A modification of the third type was selected. The modified grading ordinance grades both raw and pasteurized milk, recommends that all communities possible require all raw grades of milk to be pasteurized, but, if this is impossible, to limit the sale of raw milk to Grade "A" raw. This type of ordinance is considered best because it will, through competition, result in the production of a high-grade raw supply; because it will result in the maximum percentage of pasteurization; because it will encourage the consumption of milk; and because it will usually meet the approval of the dairy industry.

The second part of the State milk program was to encourage cities to pass the standard ordinance. Experience indicates that in promoting the passage of milk legislation it is wise to consult the dairy industry; it is unwise to make enactment of the legislation dependent upon their favorable vote, it is wise to acquaint them at the outset with the attitude of the health department on pasteurization, and it is unwise to begin the development of favorable public opinion before informally discussing the proposed ordinance with the city authorities.

The third part of the program was to insure the effective enforcement of the standard ordinance. The success of this part of the program depends upon insuring an adequate means for enforcement and upon insuring an adequate interest on the part of the local health officer. In the case of the smaller towns it may prove more economical for enforcement to be financed under a group city plan. The interest of the local health officer can be awakened by convincing him of the practicability of the proposed plan and by stimulating in him the ambition to achieve the reputation for his city of having the best milk sanitation in the State. This requires a method of measuring municipal milk sanitation.

The fourth part of the program was to determine a method of measuring municipal milk sanitation. This problem has been solved by devising a plan for determining a municipal milk sanitation rating expressing in percentage the degree to which a city has approximated the ideal milk supply.

APPENDIX A.

Standard Milk Ordinance for Alabama Municipalities.¹

FOREWORD.

The milk ordinance adopted as standard by the Alabama State Board of Health, and herewith presented, is the result of a careful study of the milk ordinances now in force in the cities of the United States. The State health department does not believe the ordinance selected to be the only effective type, but it does believe that it is as effective as any other, and Alabama municipalities are earnestly urged to adopt this ordinance in order to standardize the control and grades of milk supplies throughout the State.

There is only one section of this ordinance in which any adjustment to particular municipal conditions is necessary, namely, section 8, designating the grades of milk which shall be pasteurized.

The State board of health is convinced that the safety of raw milk increases as the precautions surrounding it increase, but it is further convinced that no milk, however carefully safeguarded, is entirely safe in its raw state. The State board of health recommends, therefore, that ultimately all milk be pasteurized.

For municipalities in which the pasteurization facilities are or can be made adequate, section 8 should read as follows:

"At the expiration of twelve months from the date on which this ordinance takes effect, and thereafter, all grades of milk sold in the city of ——— shall be pasteurized before delivery to the consumer."

Other communities, in which it is feared that insistence upon a universal pasteurization ordinance would lead to failure to pass any ordinance, are urged to limit the sale of raw milk to Grade "A" raw milk after the lapse of one year.

The enforcement of this ordinance requires the services of a modern public health laboratory and of specially trained dairy inspectors. Except in the case of larger municipalities, this service can be provided more economically by the State under the group system than by the municipalities individually.

The State board of health has therefore established this group plan laboratory-inspector service and hopes to be able to extend it sufficiently to meet the needs

¹ Adopted by the Alabama State Board of Health, 1924.

of all Alabama municipalities large enough to have a milk sanitation problem. This service is intended neither to encroach upon the self-government prerogatives of any municipality nor to supplant local enforcement of the milk ordinance. In fact, municipalities accepting this service are invited to regard the State inspector-bacteriologist as being a part-time employee of the local health department.

It has not hitherto been considered possible for the smaller municipalities to exercise as effective a degree of control over milk supplies as the larger municipalities. It is hoped that the plan herein described will make it possible in the near future to point to the established fact that milk control in Alabama is both standard throughout the State and uniformly effective.

AN ORDINANCE

Defining "milk" and certain "milk products," "milk producer," "pasteurization," etc., prohibiting the sale of adulterated and misbranded milk and milk products, requiring permits for the sale of milk and milk products, regulating the inspection of dairy farms and milk plants, the testing, grading, labeling, placarding, pasteurization, regrading, distribution, sale, and denaturing of milk and milk products, providing for the publishing of milk grades, the construction of future dairies and milk plants, the enforcement of this ordinance, and the fixing of penalties.

Be it ordained by the _____ of the city of _____ as follows:

SECTION 1. DEFINITIONS.—The following definitions shall apply in the interpretation and the enforcement of this ordinance:

Milk.—(A) Milk is hereby defined to be the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and five days after calving, or such longer period as may be necessary to render the milk practically colostrum free; which contains not less than eight and one-half per cent ($8\frac{1}{2}\%$) of solids not fat and not less than three and one-fourth per cent ($3\frac{1}{4}\%$) of milk fat.

Milk fat or butter fat.—(B) Milk fat or butter fat is the fat of milk and has a Reichert-Meissel number of not less than twenty-four (24) and a specific gravity of not less than 0.905 ($40^{\circ}\text{C}/40^{\circ}\text{C}.$).

Cream.—(C) Cream, sweet cream, is that portion of milk, rich in milk fat, which rises to the surface of milk on standing or is separated from it by centrifugal force, is fresh and clean, and which contains not less than eighteen per cent (18%) of milk fat; provided that cream having less than eighteen per cent milk fat shall be known as substandard cream.

Cream having less than thirty per cent (30%) milk fat shall be known as light cream.

Cream having more than thirty per cent (30%) and less than forty per cent (40%) milk fat shall be known as heavy cream, and cream having more than forty per cent (40%) milk fat shall be known as extra heavy cream.

Whipping cream and manufacturing cream are creams intended for whipping or manufacturing purposes, and the grades of same shall not be based on bacterial count.

Skimmed milk.—(D) Skimmed milk is milk from which substantially all the milk fat has been removed.

Adjusted milk.—(E) Adjusted milk is milk in which the percentage of milk fat has been adjusted by the addition or removal of cream or skimmed milk.

Buttermilk.—(F) Buttermilk is the product which remains when milk fat is removed from milk or cream, sweet or sour, in the process of churning. It contains not less than eight and five tenths (8.5%) of milk solids not fat.

Cultured buttermilk.—(G) Cultured buttermilk is the product resulting from the souring or treatment by a lactic acid culture of milk or milk products.

Evaporated milk (unsweetened).—(H) Evaporated milk (unsweetened) is milk from which a considerable portion of water has been evaporated and which contains not less than twenty-five and five-tenths per cent (25.5%) of milk solids and not less than seven and eight-tenths per cent (7.8%) milk fat.

Condensed milk (sweetened).—(I) Condensed milk (sweetened) is milk from which a considerable portion of water has been evaporated, to which sugar has been added, and which contains not less than twenty-eight per cent (28%) of milk solids and not less than eight per cent (8%) milk fat.

Condensed skimmed milk.—(J) Condensed skimmed milk is skimmed milk from which a considerable portion of water has been evaporated, and which contains not less than twenty per cent (20%) of milk solids.

Powdered (dried) whole milk.—(K) Powdered whole milk is milk from which substantially all of the water has been removed, and which contains not less than twenty-six per cent (26%) of milk fat and not more than five per cent (5%) of moisture.

Powdered (dried) skimmed milk.—(L) Powdered skimmed milk is skimmed milk from which substantially all of the water has been removed, and which contains not more than five per cent (5%) of moisture.

Recombined milk.—(M) Recombined milk is a substance produced by recombining powdered whole milk, powdered skimmed milk, condensed or evaporated whole milk, or skimmed milk, and milk fat, with water, and shall conform in milk fat percentage and bacterial counts to the provisions of this ordinance relating to milk.

Milk products.—(N) Milk products shall be taken to mean and include cream, skimmed milk, adjusted milk, buttermilk, cultured buttermilk, evaporated milk (unsweetened), condensed milk (sweetened), condensed skimmed milk, powdered whole milk, powdered skimmed milk, and recombined milk.

Pasteurization.—(O) The terms "pasteurization," "pasteurized," "pasteurize," and similar terms shall be taken to refer to the process of heating milk or milk products to a temperature of not less than one hundred and forty-two degrees (142°) Fahrenheit, and holding at such temperature for not less than thirty (30) minutes, in pasteurization apparatus approved by the health officer, the temperature and time being automatically recorded by a temperature and time recording device approved by the health officer.

Adulterated milk and milk products.—(P) Adulterated milk and milk products are milk and milk products defined in this ordinance which do not conform with the definitions contained in this ordinance.

Milk producer.—(Q) A milk producer is any person, firm, or corporation who owns or controls one or more cows, a part or all of the milk from which is for sale, or sold or delivered to another person, firm, or corporation.

Milk distributor.—(R) A milk distributor is any person, firm, or corporation which has in possession, offers for sale, sells, or delivers to another, any milk or milk products for consumption or manufacturing purposes.

Dairy or dairy farm.—(S) A dairy or dairy farm is any place or premises where one or more cows are kept, a part or all of the milk or milk products from which is sold or delivered to any person, firm, or corporation.

Milk plant.—(T) A milk plant is any place, or premises, or establishment where milk or milk products are collected, handled, processed, stored, bottled, pasteurized, or prepared for distribution.

Health officer.—(U) The health officer shall be taken to mean the health officer of the city of ——— in person, or his authorized representative.

Average bacterial count.—(V) Average bacterial count shall be taken to mean the average bacterial count of all samples taken during the grading period, including at least four samples taken upon separate days.

Grading period.—(W) The grading period shall be such period of time as the health officer may designate, within which grades shall be determined for all milk and cream supplies, provided that the grading period shall in no case exceed six (6) months.

Disinfectant.—(X) A disinfectant is any germicidal substance approved by the health officer.

SEC. 2. THE SALE OF ADULTERATED OR MISBRANDED MILK OR MILK PRODUCTS PROHIBITED.—No person, firm, association, or corporation shall within the city of ——— produce, sell, offer or expose for sale, or have in possession with intent to sell, any milk or milk product which is adulterated or misbranded.

SEC. 3. PERMITS.—It shall be unlawful for any person, firm, association, or corporation to bring into or receive into the city of ———, for sale, or to sell or offer for sale therein, or to have on hand any milk or milk product, excepting evaporated milk, condensed milk, condensed skimmed milk, powdered whole milk and powdered skimmed milk, who does not possess an unrevoked permit from the health officer of the city of ———, and on whose vehicles or in whose place of business there does not appear in a conspicuous place a placard showing the permit number in figures at least three inches high and one and one-half inches wide.

Such a permit may be revoked by the health officer upon the violation by the holder of any of the terms of this or any other health ordinance of the city of ———, provided that the holder of said permit shall, after complying with such revocation, have the right of appeal to the board of health.

SEC. 4. LABELING AND PLACARDING.—All bottles, cans, packages, and other containers enclosing milk or any milk product defined in this ordinance shall be plainly labeled or marked with (1) the name of the contents as given in the definitions in this ordinance; (2) the grade of the contents if said contents are graded under the provisions of this ordinance; (3) the word "pasteurized" if the contents have been pasteurized; (4) the word "raw" if the contents are raw; (5) the percentage of milk fat if the package or other container encloses adjusted milk.

Every grocery store, restaurant, café, soda fountain or similar establishment selling or serving milk shall display in a place designated by the health officer, a card furnished by the health officer, stating the grade of the milk at the time when delivered and whether same is raw or pasteurized.

SEC. 5. INSPECTION OF DAIRY FARMS AND MILK PLANTS FOR THE PURPOSE OF GRADING OR REGRADING.—At least once during each grading period the health officer shall inspect every dairy farm producing milk or cream for consumption within the city of ———, and all milk plants whose milk or cream is intended for consumption within the city of ———. In case the health officer discovers the violation of any item of sanitation, he shall make a second inspection after a lapse of such time as he deems necessary for the defect to be remedied but not before the lapse of three days, and the second inspection shall be used in determining the grade of milk or cream.

One copy of the inspection report shall be posted by the health officer in a conspicuous place upon an inside wall of one of the dairy farm or milk plant buildings, and said inspection report shall not be removed by any person except the health officer. Another copy of the inspection report shall be filed with the records of the health department. In addition, a written notice shall be mailed to or left with the owner or manager in the case of violations.

SEC. 6. THE TESTING OF MILK AND MILK PRODUCTS.—During each grading period at least four samples of milk or cream from each dairy farm and each milk plant shall be tested by the health officer. Samples of milk and cream from stores, cafés, soda fountains, restaurants, and other places where milk products are sold

shall be tested as often as the health officer may require. Said tests shall include the determination of the bacterial count made in conformity with the standard methods recommended by the American Public Health Association, and may include such other chemical and physical determinations as the health officer may deem necessary for the detection of adulteration. Notices of bacterial counts shall be given to the producer or distributor concerned as soon as made, or to any interested person on request. Samples may be taken by the health officer at any time prior to the final delivery of the milk or milk products. All stores, cafés, restaurants, soda fountains and other similar places shall furnish the health officer, upon his request, the name of the milk distributor from whom their milk is obtained.

Should the market value of any single sample exceed twenty-five cents the city of ——— shall pay the distributor therefor.

SEC. 7. THE GRADING OF MILK AND CREAM.—At least once every six (6) months the health officer shall announce through the daily press the grades of all milk and cream supplies delivered by all producers or distributors and ultimately consumed within the city of ———. Said grades shall be based upon the following standards: The grading of cream being identical with the grading of milk except that the permissible bacterial limits shall be multiplied five fold in each case.

Certified milk:

Certified milk is milk which conforms with the requirements of the American Association of Medical Milk Commissions, and is produced under the supervision of the Medical Milk Commission of the Medical Society of ——— County.

Grade "A" raw milk:

Grade "A" raw milk is milk whose average bacterial count as determined under section 6 of the ordinance does not exceed 50,000 per cubic centimeter, and which is produced upon dairy farms conforming with all of the following items of sanitation:

Cows: Tuberculosis and other diseases.—(1) A physical examination and tuberculin test of all cows shall be made before any milk therefrom is sold and at least once every twelve months thereafter by a veterinarian approved by the health officer. A certificate signed by the veterinarian, and filed with the health officer, shall be the only valid evidence of the above test. Every diseased animal shall be removed from the herd at once and no milk from diseased cows shall be offered for sale. All reacting animals shall be isolated at once and immediately excluded from the premises. All animals failing to pass the tuberculin test shall be branded with the letters "T," or "T B," on the shoulder, hip, or jaw and removed at once and slaughtered under the direction of the health officer. Each letter in the brand shall be not less than two inches high and one and one-half inches wide. Herds showing reactors on any test shall be retested within six months, but not before the lapse of sixty days.

Dairy barns.—(2) *Lighting:* All dairy barns shall have at least three square feet of window space for each animal.

(3) *Air space:* All dairy barns shall have at least five hundred (500) cubic feet of air space per cow.

(4) *Floors:* Floors and gutters of all dairy barns shall be constructed of concrete or other impervious and easily cleaned material approved by the health officer and shall be graded to drain properly, and shall be kept clean and in good repair.

(5) *Walls and ceilings:* The walls and ceilings of all dairy barns shall be whitewashed once each year or painted once every two years, or finished in a manner approved by the health officer, and shall be kept clean and in good repair. In case hay or other feed stuffs are stored above the barn, the ceiling shall be tight.

(6) Cow yard: All cow yards shall be graded and drained as well as practicable, and kept clean.

(7) Manure disposal: All manure shall be removed and stored or disposed of in such manner as best to prevent the breeding of flies therein.

Milk house or room.—(8) Construction: There shall be provided a separate milk house or milk room for the handling and storage of milk, provided with a tight floor constructed of cement or other impervious material and graded to provide proper drainage. The walls and ceilings of the milk house or room shall be of such construction as to permit easy cleaning and shall be painted at least once each year or finished in a manner approved by the health officer. The milk house or room shall be well lighted and all openings effectively screened to prevent the entrance of flies, and shall be used for no other purpose than the handling and storage of milk or milk products and other operations incident thereto. The cleaning and other operations shall be so located and conducted as to prevent any contamination one to the other. The milk room shall not open directly into the barn or into any room used for sleeping or domestic purposes.

(9) Cleanliness and flies: The floors, walls, ceilings, and equipment of the milk house or room shall be kept clean at all times. All means necessary for the elimination of flies shall be used.

(10) Toilet: Every dairy farm shall be provided with a sanitary toilet constructed and operated in accordance with the ordinances of the city of ———.

(11) Water supply: The water supply shall be easily accessible, adequate and of a safe sanitary quality.

Utensils.—(12) Construction: All containers or utensils used in the handling or storage of milk or milk products must be of such construction as to be easily cleaned and must be in good repair. Joints and seams shall be soldered flush. All milk pails shall be of a narrow mouth design approved by the health officer.

(13) Cleaning: All containers and other utensils used in the handling and storing or transportation of milk and milk products must be thoroughly cleaned by rinsing with clean water after each usage, scrubbing in an alkaline solution, and rinsing with clean water.

(14) Sterilization: All containers and other utensils used in the handling, storage, or transportation of milk or milk products shall between each usage be sterilized with steam.

(15) Storage: All containers and other utensils used in the handling, storing, or transportation of milk or milk products shall be stored so as not to become contaminated until again used.

(16) Handling: After sterilization no container or other milk or milk product utensil shall be handled in such manner as to permit any part of the person or clothing to come in contact with any surface with which milk or milk products come in contact.

Milking.—(17) Udders and teats: The udders and teats of all milking cows shall be clean and sponged with a disinfectant immediately before milking.

(18) Flanks: The flanks of all milking cows shall be kept free of visible dirt at the time of milking.

(19) Milkers' hands: Milkers' hands shall be clean, rinsed with a disinfectant and dried with a clean towel immediately before milking. Should the milking operation be interrupted, the milkers' hands must be redisinfectant. Wet hand milking is prohibited.

(20) Clean clothing: Milkers shall wear clean outer garments during milking.

(21) Milk stools: Milk stools shall be kept clean.

(22) Removal of milk: Each pail of milk shall be removed immediately to the milk house. No milk shall be strained in the dairy barn.

(23) **Cooling:** Milk must be cooled within one hour after milking to 50 degrees Fahrenheit or less and maintained at or below that temperature until delivery, unless it is delivered to a milk plant for pasteurization or separation, in which case it must be cooled or pasteurized within two hours of the time of production.

(24) **Bottling and capping:** Capping shall preferably be done by machine. In case capping is done by hand, the hands shall be disinfected in a manner approved by the health officer before the process of capping is begun and after each interruption. Caps not purchased in sanitary containers and kept therein until used shall be kept in dustproof containers and shall be immersed in an approved disinfectant solution immediately before use.

Personnel.—(25) **Health certificates:** Every person whose work brings him or her in regular contact with the production, handling, storage, or transportation of milk or milk products shall hold a certificate from the health officer certifying to the fact that within twelve months laboratory and other examinations have been made indicating that said person is free of tuberculosis, that said person is not a carrier of typhoid fever, and that said person is free of any disease capable of being spread through milk supplies.

(26) **Notification of disease:** Notice shall be sent to the health officer within twenty-four hours by any milk producer or distributor upon whose dairy farm any case of sickness or any infectious, contagious, or communicable disease occurs.

Grade "B" raw milk:

Grade "B" raw milk is milk the average bacterial count of which at no time prior to delivery exceeds 200,000 per cubic centimeter, and which is produced upon dairy farms conforming with all of the items of sanitation required for Grade "A" raw milk except (2), (3), (4), (5), or (6), provided that cleanliness of the barn and cow yard shall in no case be omitted. Item (23) shall apply except that the cooling temperature shall be changed to sixty (60) degrees Fahrenheit. Item (14) shall apply except that boiling water may be substituted for steam.

Grade "C" raw milk:

Grade "C" raw milk is milk the average bacterial count of which at no time prior to delivery exceeds 1,000,000 per cubic centimeter, and which is produced upon dairy farms conforming with all of the items of sanitation required for Grade "B" raw milk, except (1), (7), (12), (14), (23), (24), or (25), provided that cleanliness shall in no case be omitted.

Grade "D" raw milk:

Grade "D" raw milk is milk which does not meet the requirements of Grade "C" raw milk, and the average bacterial count of which does not exceed 5,000,000.

Grade "A" pasteurized milk:

Grade "A" pasteurized milk is Grade "A" or Grade "B" raw milk which has been pasteurized, cooled, and bottled in a milk plant conforming with all of the following items of sanitation and the average bacterial count of which at no time after pasteurization and until delivery exceeds 50,000.

Buildings and equipment.—(1) **Floors:** The floors of all rooms in which milk is handled shall be smooth, impervious, properly drained, and provided with trapped drains, and kept clean.

(2) **Walls and ceilings:** Walls and ceilings of rooms in which milk is handled or stored shall be frequently painted with a light-colored paint or finished in a manner approved by the health officer, and kept clean.

(3) **Doors and windows:** All openings into the outer air shall be effectively screened to prevent the access of flies. Doors shall be self-closing.

(4) **Lighting and ventilation:** All rooms shall be well lighted and ventilated.

(5) Protection from contamination and flies: The various milk-plant operations shall be so located and conducted as to prevent any contamination one to the other. All means necessary for the elimination of flies shall be used.

(6) Toilet facilities: Every milk plant shall be provided with toilet facilities conforming with the ordinances of the city of _____. There shall be at least one room or vestibule not used for milk purposes between the toilet room and any room in which milk or milk products are handled. The doors of all toilet rooms shall be self-closing. Toilet rooms shall be kept in a clean condition, in good repair, and well ventilated. In case privies or earth closets are permitted and used, they shall be located at least 100 feet from the building, and shall be of a sanitary type constructed and operated in conformity with the ordinances of the city of _____.

(7) Water supply: The water supply shall be easily accessible, adequate, and of a safe sanitary quality.

(8) Wash room: A wash room shall be provided, equipped with hot running water, soap, and sanitary towels of a type approved by the health officer. The use of a common towel is prohibited.

(9) Milk piping: Only "sanitary milk piping" of a type which can be easily cleaned with a brush shall be used.

(10) Construction of equipment: All equipment with which milk comes in contact shall be constructed in such manner as to be easily cleaned.

(11) Disposal of wastes: All wastes shall be disposed of in conformity with the requirements of the health officer.

Methods.—(12) Cleaning and sterilizing of containers and apparatus: All milk containers and milk apparatus shall be thoroughly cleaned after each usage by rinsing with clean water, then scrubbing in an alkaline solution, then rinsing with clean water, and finally sterilized in a manner approved by the health officer.

(13) Storage of containers: After sterilization all bottles, cans, and other containers shall be stored in an inverted position in a clean place protected from contamination.

(14) Handling of containers and apparatus: Between sterilization and usage all containers and apparatus shall be handled in such manner as to prevent any part of the person or clothing from coming in contact with any surface with which milk or milk products come in contact.

(15) Storage of caps: Milk-bottle caps shall be purchased and stored only in sanitary tubes and shall be kept therein until used.

(16) Pasteurization: Pasteurization shall be performed as described in the definition section of this ordinance. The time and temperature record charts shall be preserved for a period of three months for the information of the health officer.

(17) Cooling: All milk not pasteurized upon receipt shall be immediately cooled to a temperature of 50 degrees Fahrenheit or less and maintained thereat until pasteurized; and all pasteurized milk shall be immediately cooled to a temperature of 50 degrees Fahrenheit or less and maintained thereat until delivery.

(18) Bottling: Bottling shall be done in such manner as to prevent any part of the person or clothing from coming in contact with any surface with which milk or milk products come in contact.

(19) Overflow milk: Overflow milk which has become machine contaminated shall not be sold for human consumption.

(20) Capping: Capping shall be done by machinery approved by the health officer. Hand capping is prohibited.

(21) Time of delivery: Milk to be consumed in the form of whole milk shall be delivered to the final consumer within thirty-six hours of the time of pasteurization.

Personnel.—(22) Health certificates: Every person whose work brings him or her in contact with the production, handling, storage, or transportation of milk or milk products shall hold a certificate from the health officer certifying to the fact that within twelve months laboratory and other examinations have been made indicating that said person is free of tuberculosis, that said person is not a carrier of typhoid fever, and that said person is free of any disease capable of being spread through milk supplies.

(23) Notification of disease: Notice shall be sent to the health officer within twenty-four hours by any milk producer or distributor upon whose dairy farms any case of sickness or any infectious, contagious, or communicable disease occurs.

(24) Cleanliness: All persons coming in contact with milk or milk-products containers or equipment, shall wear clean outer garments and shall keep their hands clean at all times while thus engaged.

Grade "B" pasteurized milk:

Grade "B" pasteurized milk is Grade "A," "B," or "C" raw milk which has been pasteurized, cooled, and bottled in a milk plant conforming with all of the items of sanitation required for Grade "A" pasteurized milk excepting (2), (4), or (24), and the average bacterial count of which at no time after pasteurization and prior to delivery exceeds 100,000.

Grade "C" pasteurized milk:

Grade "C" pasteurized milk is pasteurized milk which does not meet the requirements of Grade "B" pasteurized milk, and the average bacterial count of which at no time prior to delivery exceeds 500,000 per cubic centimeter. Grade "C" pasteurized milk shall be sold for cooking and manufacturing purposes only and every container thereof shall be marked with the words, "For cooking and manufacturing purposes only."

SEC. 8. GRADES OF RAW MILK WHICH MUST BE PASTEURIZED.—(This section should be worded as indicated in the "Foreword.")

SEC. 9. SUPPLEMENTARY REGRADING.—At any time between regular announcements of milk grades any producer or distributor may make application for regrading his product.

In case the applicant's existing low grade is due to excessive bacterial count, said application must be supported by at least two bacteriological examinations made subsequent to the end of the previous grading period and indicating that the quality of the applicant's output has improved since the last grading announcement and conforms with the requirements of a higher grade. The samples upon which the said two analyses are made may be brought to the health department laboratory by the applicant.

Upon the receipt of a satisfactory application, the health officer shall make at least four bacteriological analyses upon samples, collected by the health officer of the applicant's output within a period of not less than two weeks and not more than three weeks of the date of the application. The health officer shall award a higher grade immediately in case the said four analyses indicate the necessary quality.

In case the applicant's existing low grade is due to a violation of an item of sanitation other than bacterial count, said application must be accompanied by a statement signed by the applicant to the effect that the violated item of sanitation has been conformed with. Within one week of the receipt of such an application the health officer shall make a reinspection of the applicant's establishment and, in case the findings justify, shall award a regrade.

At any time between regular announcements of milk grades the health officer may lower the grade of any milk producer or distributor if as a result of inspections or milk analyses a lower grade shall be justified in accordance with the terms of this ordinance.

SEC. 10. TRANSFERRING OR DIPPING MILK.—No milk producer or distributor shall transfer milk or milk products from one container to another upon the street or in any vehicle or store or in any place except a bottling or milk room especially used for that purpose, except as may be specially permitted by the health officer in the case of milk being delivered in bulk. The sale of dip milk is hereby expressly prohibited.

It shall be unlawful for hotels, soda fountains, restaurants, and similar establishments to sell or serve any whole milk or adjusted milk except in the original container in which it was received from the producer or distributor.

SEC. 11. MILK NOT TO BE PASTEURIZED OUTSIDE OF ——— COUNTY.—No milk or cream shall be sold in the city of ——— that has been pasteurized outside the county of ———, Alabama, except as may be authorized by the city health officer.

SEC. 12. SPITTING.—No person shall spit, except into a receptacle provided for the purpose, in any part of any room, vehicle, or other place used for the sale, storage, handling, or transportation of milk.

SEC. 13. VEHICLES.—All vehicles used for delivery of milk in the city of ——— shall be so constructed as to protect the milk from the sun and from contamination. Such vehicles shall be kept clean while used in transporting milk or milk products. No substance capable of contaminating milk or milk products shall be transported with milk or milk products.

SEC. 14. DENATURING MISBRANDED PRODUCTS.—The health officer shall immediately denature with rennet or some harmless coloring matter any milk or milk product found misbranded with respect to grading or sold without a permit.

SEC. 15. REPASTEURIZATION PROHIBITED.—No milk or milk products shall be pasteurized more than once.

SEC. 16. FUTURE DAIRIES AND MILK PLANTS.—All dairies and milk plants from which milk is supplied to the city of ———, which are hereafter constructed, shall conform in their construction to the requirements of the health officer.

SEC. 17. PROSCRIBED MILK.—Milk which does not conform with any one of the grades described in this ordinance shall not be sold in the city of ———.

SEC. 18. PENALTY.—Any person, firm, association, or corporation who shall violate any provision of this ordinance shall be fined not more than one hundred dollars (\$100), at the discretion of the recorder.

SEC. 19. REPEAL AND DATE OF EFFECT.—All ordinances and parts of ordinances in conflict with this ordinance are hereby repealed; and this ordinance shall be in full force and effect immediately upon its adoption and its publication, as provided by law.

SEC. 20. UNCONSTITUTIONALITY CLAUSE.—Should any section, paragraph, sentence, clause, or phrase of this ordinance be declared unconstitutional or invalid for any reason, the remainder of said ordinance shall not be affected thereby. Each and every violation of the provisions of this ordinance shall constitute a separate offense.

APPENDIX B.

Determination of Municipal Milk Sanitation Rating for City of ———, Ala.

Item No.	Item of sanitation.	Possible credit.	Percentage compliance.	Earned credit.
<i>Cows.</i>				
1	Tuberculin testing and physical examination.....	75	100.0	75.0
<i>Dairy barn.</i>				
2	Lighting.....	5	98.3	4.9
3	Air space.....	5	98.6	4.9
4a	Floor construction.....	5	98.2	4.8
4b	Floor cleanliness.....	5	96.2	4.8
5	Walls and ceiling.....	5	96.5	4.8
6	Barnyard.....	10	95.9	9.6
7	Manure.....	25	96.4	24.1
<i>Milk room.</i>				
8a	Floors.....	5	100.0	5.0
8b	Walls and ceiling.....	5	82.7	4.1
8c	Lighting.....	5	100.0	5.0
8d	Screening.....	15	63.4	9.5
9	Cleanliness and flies.....	10	65.8	6.6
<i>Toilet.</i>				
10	Location, construction, and operation.....	20	94.3	18.9
<i>Water supply.</i>				
11	Accessibility, adequacy, and quality.....	20	100.0	20.0
<i>Utensils.</i>				
12	Construction.....	20	94.4	18.9
13	Cleaning.....	20	87.1	17.4
14a	Sterilization with steam.....	25	89.9	22.5
14b	Sterilization with boiling water.....	*(20)	6.3	1.2
15	Storage.....	10	96.2	9.6
16	Handling.....	5	100.0	5.0
<i>Milking.</i>				
17	Udders and teats.....	20	98.7	19.7
18	Flanks.....	5	99.8	5.0
19	Hands.....	20	98.7	19.7
20	Clothing.....	5	96.2	4.8
21	Milk stools.....	5	65.0	3.2
22	Immediate removal of milk to milk house.....	5	98.0	5.0
<i>Cooling.</i>				
23a	Cooling to 50° F. or under.....	25	81.1	20.3
23b	Cooling to between 50° F. and 60° F.....	*(15)	9.4	1.4
<i>Bottling and capping.</i>				
24	Method (full credit given if milk delivered in cans).....	20	79.8	16.0
<i>Employees.</i>				
25	Health certificate.....	25	98.0	24.5
<i>Bacterial counts.</i>				
—	Bacterial counts under 50,000 per c. c.....	75	84.0	63.0
—	Bacterial counts 50,000 to 200,000 per c. c.....	*(25)	11.0	2.8
—	Bacterial counts 200,000 to 1,000,000 per c. c.....	*(10)	4.0	.4
<i>Buildings and equipment at pasteurization plant.</i>				
1	Floors.....	5	0.0	0.0
2	Walls and ceilings.....	5	0.0	0.0
3	Doors and windows.....	20	0.0	0.0
4a	Lighting.....	5	0.0	0.0
4b	Ventilation.....	5	0.0	0.0
5	Protection from contamination and flies.....	10	0.0	0.0
6	Toilet facilities.....	20	0.0	0.0
7	Water supply.....	20	0.0	0.0
8	Wash room.....	5	0.0	0.0
9	Milk piping.....	10	0.0	0.0
10	Construction of equipment.....	10	0.0	0.0
11	Disposal of waste.....	5	0.0	0.0

Determination of Municipal Milk Sanitation Rating for City of ———, Ala.—
Continued

Item No.	Item of sanitation.	Possible credit.	Percentage compliance.	Earned credit.
<i>Methods used at pasteurization plant.</i>				
12a	Cleaning of containers and apparatus.....	25	0.0	0.0
12b	Sterilization of containers and apparatus.....	25	0.0	0.0
13	Storage of containers.....	10	0.0	0.0
14	Handling of containers and apparatus.....	10	0.0	0.0
15	Storage of milk-bottle caps.....	5	0.0	0.0
16	Pasteurization process, design and operation.....	150	0.0	0.0
17	Cooling.....	25	0.0	0.0
18	Bottling.....	10	0.0	0.0
19	Overflow milk discarded.....	5	0.0	0.0
20	Capping.....	10	0.0	0.0
21	Delivery within 36 hours.....	5	0.0	0.0
<i>Employees at pasteurization plant.</i>				
22	Health certificates.....	25	0.0	0.0
24	Cleanliness.....	5	0.0	0.0
<i>Bacterial counts after pasteurization.</i>				
—	Final bacterial counts under 10,000.....	75	0.0	0.0
—	Final bacterial counts 10,000 to 50,000.....	* (25)	0.0	0.0
	Total.....	1,000	-----	462.4

Milk sanitation index of ———, Ala., as of June 6, 1924 = $(462.4 \div 1,000) \times 100 = 46.2\%$.

Notes:

The percentage compliance for all items except temperatures and bacterial counts is derived by dividing the total gallons of milk per day complying with the item by the total gallons per day produced. In the case of temperatures the percentage compliance is derived by dividing the number of temperature observations complying with the item by the total temperature observations made. In the case of bacterial counts the percentage compliance is derived by dividing the number of bacterial counts complying with the item of the total number of bacterial counts determined.

The items marked with an asterisk (*) are not included in the addition of this rating, inasmuch as they are fractional credits only.

For a detailed description of the above items of sanitation refer to the Standard Ordinance, Appendix A. The item numbers upon this rating sheet are identical with the item numbers in the Standard Ordinance.

It will be noted that the addition of credits assigned to items preceding the entrance of the milk into the pasteurization plant is 500, and that the addition of all succeeding credits is likewise 500. This division of credits is based upon the following reasons: Assume that there are presented for the measurement of relative safety two milk supplies. In the case of the first supply none of the prepasteurization items of sanitation has been complied with, but the milk has been perfectly pasteurized. In the case of the second supply all of the prepasteurization items of sanitation have been complied with, but the milk is raw. Practically every modern health authority would immediately select the first supply as being the safer. In other words, modern health authorities attach at least equal if not greater value to the pasteurization items than to the prepasteurization items. Hence the 500-500 division of credits in the rating system.

SOME SPECIFIC FACTORS RESPONSIBLE FOR POLLUTION OR AFFECTING ANALYSES OF WATER SUPPLIES.

The material presented below was originally submitted to the subcommittee on field surveys, of the Advisory Committee on Official Water Standards of the United States Public Health Service, on July 8, 1922, by Mr. H. A. Whittaker, director of the division of sanitation of the Minnesota State Board of Health, to be used in connection with the work of this subcommittee. Although the list quite naturally includes many factors responsible for the pollution of water supplies that are generally known, it is believed that it may be of interest to persons engaged in the sanitary supervision of water supplies.

A. SOURCE OF SUPPLY.

Surface and underground supplies:

(a) The selection of water supplies without complete hydrographic and sanitary data.

(b) The location of waterworks, including pumping station, treatment plants, reservoirs, etc., where they are subject to flooding with surface water from lakes, streams, and other sources, or where satisfactory drainage can not be established away from the plant on the ground surface.

Underground supplies:

(a) The presence of sewers, cesspools, wells used for the disposal of sewage and surface drainage, etc., in close proximity to the source.

(b) Excavation work in the immediate vicinity, especially where explosives are used, which would result in disturbance of the underground formations.

(c) Defective casings resulting from incorrect design or construction and the deterioration of materials. The tops of drilled-well casings are frequently fractured during the process of removing the drop pipe and cylinder for repairs.

(d) The lack of covers to wells and springs, or the improper design and construction of covers, especially of dug wells and springs, and of the caps for casings of drilled and driven wells.

(e) The location of pumps and pumping equipment in a pit immediately over or adjacent to the well or spring casing where such design and construction could be avoided. Such pits act as catch basins for drip water from the pump and piping, and sometimes for surface water which may enter the pit through defective side walls or covers where pumps of the deep-well type are used. Unless provision is made for proper removal of this water, it may accumulate to a sufficient extent to flood the casing head or the pumping equipment, thus endangering the supply.

(f) The construction of drains leading from a well or pump pit to a sewerage or drainage system. Such drains establish a direct connection between the water supply and a source of pollution.

(g) Inadequate protection of air vents from wells using air-lift pumps.

B. TREATMENT.

Surface and underground supplies:

(a) The design and construction of water-treatment plants, including filtration plants, chlorine plants, and water-softening plants, without adequate knowledge of the microscopic, bacteriological, physical, or chemical condition of the water to be treated, or sufficient preliminary experimental data to demonstrate the proper type of plant to install.

(b) The installation of only a part of the treatment necessary to purify the water properly. This is especially true where chlorine treatment has been recommended when filtration should have been a part of the treatment to insure satisfactory results.

(c) The improper design or construction of settling basins, coagulation basins, filters, piping, and apparatus for administering chemicals.

(d) The existence of by-passes around all or a part of the water-treatment plant by which untreated, or partially treated water, can be discharged into the distribution system.

(e) A lack of duplicate parts of machinery and apparatus involved in the treatment of the water, and necessary to keep the plant in operation in case of accidental breakdown. This applies especially to chlorine apparatus.

(f) The intermittent discharge of sewage and trade wastes into the source of supply, placing an unusual burden on the treatment plant at irregular intervals.

(g) Defects in the design and construction of water-softening plants that expose the water under treatment to possible pollution, especially through the application of the chemicals.

C. PUMPING EQUIPMENT.

Surface and underground supplies:

(a) The use of a type of pump of unsatisfactory construction, as, for example, one which would require a well pit around the well at the surface when another type of pump would have obviated the necessity of such construction, or the use of one which requires priming when put in operation, or which requires the attendant to enter the well for the purpose of oiling.

(b) The return of water used for cooling engines or pump bearings into the supply.

(c) The improper location of intakes to air compressors which would result in pumping dust-laden air into a well operated on the air-lift principle.

D. STORAGE.

Surface and underground supplies:

(a) The lack of covers to prevent contact with persons, animals, birds, insects, dust, etc.

(b) The use of the covers or surfaces of underground reservoirs for pleasure purposes, such as playgrounds, tennis courts, skating rinks, etc.

(c) Faulty construction of walls and roof.

(d) Manholes in the roofs constructed without collars, permitting the entrance of surface water, and the use of covers without overlapping edges.

(e) The use of improperly constructed vents in the roof, permitting the entrance of small animals, birds, insects, dust, etc.

(f) The improper design of drainpipes and overflow pipes which would allow the backing up of sewage or other polluted material from a sewerage or drainage system to which the drain or overflow is connected.

(g) Passing water pipes carrying polluted water through a storage reservoir, or a clear-water basin of a filtration plant, thus creating a possible opportunity for polluting the supply in case of leakage.

E. DISTRIBUTION.

Surface and underground supplies:

(a) The existence of cross connections between the distribution system and another water supply which is unsafe.

(b) Connections with mechanical equipment receiving and returning water to the system.

(c) Plumbing fixtures which allow water to return to the system from polluted sources during periods when there is a negative pressure in the system.

(d) Connections between the distribution system and the bottoms of elevated water tanks where such tanks are subject to pollution.

(e) The practice of connecting fire engines with the distribution system and pumping water from polluted sources into the system for fire-fighting purposes.

(f) The laying of water mains in the same trench with sewers, the water mains being laid at a lower elevation than the sewer pipe. This adds unnecessary danger in case breaks occur in the water system and it is necessary to drain the pipes for repair. If leakage occurs in the sewer pipe or if it is accidentally broken during excavation, there is opportunity for sewage to enter the water mains.

F. OPERATION.*Surface and underground supplies:*

(a) The operation of water works by inexperienced operators with little or no knowledge or appreciation of sanitation.

(b) Careless operators who do not observe difficulties, and who do not repair breaks in equipment, including well casings, suction pipes, pumps, chemical feed apparatus, chlorine apparatus, etc.

(c) The operation of water supplies without analytical control. This applies especially to water-treatment plants.

(d) Neglect to disinfect any part of the system handling pure water after repair work on wells, pumps, piping, filters, clear-water basins, reservoirs, tanks and distribution system, etc.

OUTBREAK OF PNEUMONIC PLAGUE IN LOS ANGELES, CALIF.

On November 1 a report was received from the Service representative stationed in Los Angeles, Calif., to the effect that there had been 18 cases of pneumonic plague with 10 deaths in that city since October 19, 1924, and that there were 3 additional suspicious cases under observation.

The telegram stated that the cases had been hospitalized and that contacts were being kept under observation under guard. Immediately upon the receipt of the report of this outbreak, Senior Surgeon J. C. Perry and Surgeon N. E. Wayson were ordered to proceed to Los Angeles to represent the service and cooperate with the State and city health authorities in inaugurating such measures as might be found necessary. Due notice of existing conditions has been given.

PULMONARY FORM OF PLAGUE.

There seems to be little doubt that the pulmonary forms of plague infection accounted for most of the deaths referred to under the name of "black death" during the Middle Ages. The more recent history of this form of plague infection is gotten chiefly from relatively small outbreaks in India and the very extensive outbreak of 1910 and 1911 in northern China, and the later and less extensive outbreaks in the same region. These forms of plague have appeared also in South Africa and in Egypt. In the United States up to the present time the disease has been confined to a small outbreak embracing 14 cases in Oakland, Calif., in August and September, 1919. This outbreak was traceable to a case that had its origin in an infected ground

squirrel. There has occurred an occasional case of secondary pneumonia in the bubonic type of the disease, and in 1903 there were three cases of primary pneumonic plague in San Francisco.

Types.—Two types may be recognized: First, secondary plague pneumonia, which occurs occasionally as a complication of the ordinary bubonic type of plague and which rarely gives rise to the serious, rapidly spreading, and very fatal epidemics; second, the type usually spoken of as primary pneumonic plague, which can not usually be traced to bubonic cases—indeed, large epidemics may occur without a bubonic case being recognized.

Etiology.—The lung forms of plague are due to the same organism, the Yersin-Kitasato bacillus, which is responsible for the more usual bubonic type of the disease. It is a most remarkable fact that two diseases, so different in epidemiology, clinical picture, and pathology should be due to the same organism, but, in spite of the most careful morphological, cultural, serological, and pathogenicity studies, no difference can be detected between the strain of the organism causing the ordinary bubonic type of the disease and that causing either of the forms of pulmonary plague.

Mode of spread.—So far as available evidence goes, in this form the infection usually is communicated directly from the sick to the well by secretions of the respiratory tract. During the act of coughing, expectorating, or sneezing, infectious material is conveyed to the new victim. Indirect infection from contaminated objects (fingers, table utensils) must be considered. The spread is very much more likely to occur from primary pneumonic plague than from the type secondary to primary infection of the lymph glands.

Several observers have reported carriers—that is, individuals who show few or no symptoms and yet carry virulent plague bacilli in the upper respiratory tract.

Pathology.—The important pathology is in the lungs. A small proportion of cases show little beyond edema and congestion, while, when distinct consolidation occurs, as in the majority of cases, it may be either lobar or lobular. The final diagnosis rests on the bacteriological findings.

Clinical manifestations.—The period of incubation of the primary pneumonic plague is ordinarily said to be from three to five days; the onset is usually sudden, with chilliness, fever, rapid pulse, and headache. Cough and dyspnea soon appear. The sputum is bloody or blood-stained, and usually there is no difficulty in finding the plague organisms in it. Cyanosis and ecchymoses appear late in the course. The cases usually terminate fatally between the third and fifth days after the onset of the symptoms. No particular form of treatment has been found to be of value, the death rate being practically 100 per cent under any form of treatment.

Public health measures.—Early isolation and hospitalization of the sick, with detention of contacts for observation over a period sufficient to cover the incubation period, offer the best prospects for controlling an epidemic.

It is necessary that a survey of the rodents of the community be made in order that possible infection among them might be detected.

Under the head of personal prophylaxis, the wearing of hoods and masks seems to be of value. Disinfection may be limited to grossly infected material.

DEATHS DURING WEEK ENDED OCTOBER 25, 1924.

Summary of information received by telegraph from industrial insurance companies for week ended October 25, 1924, and corresponding week of 1923. (From the Weekly Health Index, October 29, 1924, issued by the Bureau of the Census, Department of Commerce.)

	Week ended October 25, 1924.	Corresponding week, 1923.
Policies in force.....	57, 441, 567	53, 848, 998
Number of death claims.....	10, 450	9, 484
Death claims per 1,000 policies in force, annual rate.....	9. 5	9. 2

Deaths from all causes in certain large cities of the United States during the week ended October 25, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, October 29, 1924, issued by the Bureau of the Census, Department of Commerce.)

City.	Week ended Oct. 25, 1924.		Annual death rate per 1,000 corresponding week, 1923.	Deaths under 1 year.		Infant mortal- ity rate, week ended Oct. 25, 1924. ²
	Total deaths.	Death rate. ¹		Week ended Oct. 25, 1924.	Corre- sponding week, 1923.	
Total (65 cities).....	5, 687	11. 0	³ 11. 6	651	³ 808	.....
Albany ⁴	35	15. 4	15. 1	2	4	46
Atlanta.....	66	15. 1	19. 4	9	11	.....
Baltimore ⁴	203	13. 5	15. 1	21	25	63
Birmingham.....	59	15. 3	17. 0	10	6	.....
Boston.....	185	12. 4	12. 2	21	22	58
Bridgeport.....	38	.....	.....	2	3	32
Buffalo.....	124	11. 9	10. 9	15	14	63
Cambridge.....	22	10. 2	10. 3	1	3	17
Camden.....	30	12. 4	12. 2	7	3	115
Canton.....	15	7. 6	9. 5	2	3	44
Chicago ⁴	513	9. 1	9. 5	64	96	60
Cincinnati.....	122	15. 6	13. 6	14	10	88
Cleveland.....	116	6. 6	10. 9	17	38	43
Columbus.....	81	15. 8	13. 6	10	7	95
Dallas.....	43	11. 9	11. 2	6	9	.....
Dayton.....	26	8. 0	9. 8	6	4	100
Denver.....	90	.....	.....	11	6	.....
Des Moines.....	22	7. 9	8. 5	1	5	.....
Detroit.....	195	.....	.....	35	40	65
Duluth.....	12	5. 8	10. 8	1	5	22
Erie.....	23	.....	.....	2	4	41
Fall River ⁴	32	13. 8	11. 6	4	8	56
Flint.....	19	.....	.....	4	4	69
Fort Worth.....	19	6. 7	8. 0	4	8	.....
Grand Rapids.....	25	8. 8	5. 7	3	4	47
Houston.....	38	.....	.....	4	5	.....
Indianapolis.....	95	14. 1	14. 1	5	16	37

¹ Annual rate per 1,000 population.

² Deaths under 1 year per 1,000 births—an annual rate based on deaths under 1 year for the week and estimated births for 1923. Cities left blank are not in the registration area for births.

³ Data for 63 cities.

⁴ Deaths for week ended Friday, October 24, 1924.

Deaths from all causes in certain large cities of the United States during the week ended October 25, 1924, infant mortality, annual death rate, and comparison with corresponding week of 1923. (From the Weekly Health Index, October 29, 1924, issued by the Bureau of the Census, Department of Commerce.)—Continued.

City.	Week ended Oct. 25, 1924.		Annual death rate per 1,000 corresponding week, 1923.	Deaths under 1 year.		Infant mortality rate, week ended Oct. 25, 1924.
	Total deaths.	Death rate.		Week ended Oct. 25, 1924.	Corresponding week, 1923.	
Jacksonville, Fla.	27	13.7	20.8	1	6	
Jersey City.	67	11.2	10.8	3	10	21
Kansas City, Kans.	30	13.3	23.0	1	6	19
Kansas City, Mo.	80	11.6	14.8	8	13	
Los Angeles.	191			12	25	37
Louisville.	69	13.9	14.4	9	12	84
Lowell.	28	12.6	11.3	5	4	89
Lynn.	10	5.0	10.2	0	2	0
Memphis.	51	15.4	16.9	7	5	
Milwaukee.	77	8.2	9.6	1	15	5
Minneapolis.	80	10.0	11.2	4	9	21
Nashville.	54	22.8	16.2	14	7	
New Bedford.	27	10.6	13.6	4	5	62
New Haven.	39	11.6	9.9	3	3	40
New Orleans.	112	14.3	15.0	12	17	
New York.	1,173	10.2	9.9	125	140	51
Bronx Borough.	129	7.7	7.0	7	11	25
Brooklyn Borough.	369	8.8	9.2	47	52	50
Manhattan Borough.	528	12.2	11.9	58	68	59
Queens Borough.	104	9.8	7.0	9	8	45
Richmond Borough.	43	17.2	15.9	4	1	73
Newark, N. J.	93	10.9	9.2	13	13	61
Norfolk.	26	8.3	10.8	2	4	36
Oklahoma City.	15	7.5		3		
Omaha.	43	10.8	12.8	4	9	43
Paterson.	30	11.1	12.7	4	5	68
Philadelphia.	424	11.3	12.3	52	58	66
Pittsburgh.	193	16.1	15.5	29	23	98
Portland, Oreg.	51	9.6	9.5	9	0	93
Providence.	45	9.6	12.9	8	13	65
Richmond.	44	12.5	14.7	3	8	36
Rochester.	63	10.1		6		47
St. Louis.	193	12.4	13.0	19	27	
St. Paul.	57	12.2	10.1	6	5	51
Salt Lake City.	37	15.0	13.6	3	2	60
San Antonio.	39	10.6	14.4	7	11	
San Francisco.	111	10.6	12.6	6	13	36
Schenectady.	8	4.2	11.6	2	1	59
Seattle.	58			4	5	39
Somerville.	13	6.7	8.4	0	0	0
Spokane.	21			2	2	44
Springfield, Mass.	35	12.3	11.2	5	5	84
Syracuse.	38	10.5	11.9	5	6	62
Tacoma.	20	10.1	12.3	1	1	24
Toledo.	55	10.4	13.0	7	2	66
Trenton.	40	16.1	9.8	4	1	67
Utica.	15	7.4	10.1	1	7	22
Washington, D. C.	118	12.6	11.3	13	18	75
Waterbury.	26			5	3	116
Wilmington, Del.	24	10.4	11.5	4	5	89
Worcester.	46	12.3	12.5	3	7	36
Yonkers.	13	6.2	5.8	3	2	65
Youngstown.	29	9.7	13.5	9	7	124

* Deaths for week ended Friday, October 24, 1924.

PREVALENCE OF DISEASE.

No health department, State or local, can effectively prevent or control disease without knowledge of when, where, and under what conditions cases are occurring.

UNITED STATES.

CURRENT WEEKLY STATE REPORTS.

These reports are preliminary, and the figures are subject to change when later returns are received by the State health officers.

Reports for Week Ended November 1, 1924.

ALABAMA.		Cases.	COLORADO.	
			(Exclusive of Denver.)	Cases.
Chicken pox.....	12		Chicken pox.....	52
Dengue.....	2		Diphtheria.....	10
Diphtheria.....	79		Measles.....	1
Dysentery.....	12		Mumps.....	2
Influenza.....	63		Scarlet fever.....	25
Malaria.....	74		Tuberculosis.....	15
Measles.....	4		Typhoid fever.....	6
Mumps.....	10		Whooping cough.....	2
Pellagra.....	6			
Pneumonia.....	29			
Polio-myelitis.....	1			
Scarlet fever.....	34			
Smallpox.....	47			
Tuberculosis.....	49			
Typhoid fever.....	33			
Whooping cough.....	9			
ARIZONA.			CONNECTICUT.	
Chicken pox.....	7		Cerebrospinal meningitis.....	1
Diphtheria.....	4		Chicken pox.....	49
Measles.....	2		Conjunctivitis (infectious).....	1
Mumps.....	16		Diphtheria.....	50
Scarlet fever.....	50		German measles.....	1
Tuberculosis.....	6		Influenza.....	1
Whooping cough.....	2		Lethargic encephalitis.....	2
			Measles.....	4
			Mumps.....	8
			Pneumonia (lobar).....	26
			Polio-myelitis.....	1
			Scarlet fever.....	54
			Septic sore throat.....	1
			Smallpox.....	3
			Tuberculosis (all forms).....	24
			Typhoid fever.....	1
			Whooping cough.....	53
ARKANSAS.			DELAWARE.	
Chicken pox.....	17		Chicken pox.....	2
Diphtheria.....	10		Mumps.....	2
Influenza.....	33		Pneumonia.....	1
Malaria.....	92		Scarlet fever.....	6
Measles.....	24		Tuberculosis.....	1
Mumps.....	4		Whooping cough.....	3
Pellagra.....	6			
Scarlet fever.....	15			
Smallpox.....	6			
Tuberculosis.....	6			
Typhoid fever.....	13			
Whooping cough.....	18			

FLORIDA.		Cases.	KANSAS.		Cases.
Diphtheria	.....	22	Chicken pox	.....	44
Influenza	.....	4	Diphtheria	.....	132
Malaria	.....	58	German measles	.....	2
Pneumonia	.....	37	Influenza	.....	2
Poliomyelitis	.....	1	Malaria	.....	1
Scarlet fever	.....	4	Measles	.....	1
Trachoma	.....	1	Mumps	.....	49
Typhoid fever	.....	22	Pneumonia	.....	12
GEORGIA.			Scarlet fever	.....	102
Chicken pox	.....	9	Smallpox	.....	4
Dengue	.....	1	Tuberculosis	.....	30
Diphtheria	.....	80	Typhoid fever	.....	13
German measles	.....	1	Vincent's angina	.....	1
Hookworm disease	.....	11	Whooping cough	.....	32
Influenza	.....	4	LOUISIANA.		
Malaria	.....	5	Anthrax	.....	1
Mumps	.....	14	Cerebrospinal meningitis	.....	1
Pneumonia	.....	35	Diphtheria	.....	21
Scarlet fever	.....	16	Malaria	.....	7
Tuberculosis	.....	37	Pneumonia	.....	29
Typhoid fever	.....	7	Scarlet fever	.....	5
Typhus fever	.....	3	Smallpox	.....	7
Whooping cough	.....	5	Tuberculosis	.....	20
ILLINOIS.			Typhoid fever	.....	15
Cerebrospinal meningitis—Cook County	.....	2	Whooping cough	.....	6
Diphtheria:			MAINE.		
Cook County	.....	76	Chicken pox	.....	33
Scattering	.....	64	Diphtheria	.....	12
Influenza	.....	9	German measles	.....	4
Lethargic encephalitis—Kane County	.....	1	Influenza	.....	12
Measles	.....	40	Measles	.....	1
Pneumonia	.....	101	Mumps	.....	37
Poliomyelitis:			Paratyphoid fever	.....	2
Champaign County	.....	1	Pellagra	.....	1
Clay County	.....	1	Pneumonia	.....	4
Cook County	.....	2	Poliomyelitis	.....	6
Du Page County	.....	1	Scarlet fever	.....	29
Greene County	.....	1	Tuberculosis	.....	15
St. Clair County	.....	1	Typhoid fever	.....	10
Shelby County	.....	1	Vincent's angina	.....	4
Tazewell County	.....	1	Whooping cough	.....	19
Woodford County	.....	1	MARYLAND. ¹		
Scarlet fever:			Chicken pox	.....	40
Cook County	.....	130	Diphtheria	.....	57
Du Page County	.....	10	German measles	.....	1
Kane County	.....	8	Influenza	.....	12
La Salle County	.....	9	Lethargic encephalitis	.....	1
McLean County	.....	9	Malaria	.....	1
St. Clair County	.....	9	Measles	.....	4
Scattering	.....	88	Mumps	.....	19
Smallpox	.....	27	Ophthalmia neonatorum	.....	1
Tuberculosis	.....	232	Pneumonia (all forms)	.....	25
Typhoid fever:			Poliomyelitis	.....	3
Cook County	.....	8	Scarlet fever	.....	31
Scattering	.....	36	Septic sore throat	.....	1
Whooping cough	.....	166	Tuberculosis	.....	57
IOWA.			Typhoid fever	.....	28
Diphtheria	.....	23	Whooping cough	.....	64
Poliomyelitis	.....	1	MASSACHUSETTS.		
Scarlet fever	.....	39	Anthrax	.....	1
Smallpox	.....	29	Cerebrospinal meningitis	.....	1
Typhoid fever	.....	1	Chicken pox	.....	105

¹ Week ended Friday.

MASSACHUSETTS—continued.

	Cases.
Conjunctivitis (suppurative).....	21
Diphtheria.....	148
Dysentery.....	1
German measles.....	4
Influenza.....	3
Lethargic encephalitis.....	3
Measles.....	77
Mumps.....	39
Ophthalmia neonatorum.....	22
Pellagra.....	1
Pneumonia (lobar).....	87
Poliomyelitis.....	14
Scarlet fever.....	194
Septic sore throat.....	3
Trachoma.....	1
Trichinosis.....	2
Tuberculosis (all forms).....	131
Typhoid fever.....	10
Whooping cough.....	45

MICHIGAN.

Diphtheria.....	117
Measles.....	66
Pneumonia.....	41
Scarlet fever.....	225
Smallpox.....	14
Tuberculosis.....	88
Typhoid fever.....	24
Whooping cough.....	84

MISSISSIPPI.

Diphtheria.....	34
Scarlet fever.....	10
Smallpox.....	4
Typhoid fever.....	13

MISSOURI.

Chicken pox.....	24
Diphtheria.....	119
Influenza.....	1
Measles.....	1
Mumps.....	6
Pneumonia.....	9
Scarlet fever.....	188
Smallpox.....	7
Tetanus.....	2
Trachoma.....	9
Tuberculosis.....	32
Typhoid fever.....	20
Whooping cough.....	11

MONTANA.

Diphtheria.....	11
Poliomyelitis:	
Harlowton.....	1
Helena.....	1
Victor.....	2
Scarlet fever.....	20
Smallpox.....	12

NEW JERSEY.

Cerebrospinal meningitis.....	1
Chicken pox.....	150
Diphtheria.....	83
Influenza.....	7
Malaria.....	1
Measles.....	22

NEW JERSEY—continued.

	Cases.
Paratyphoid fever.....	1
Pneumonia.....	85
Poliomyelitis.....	3
Scarlet fever.....	97
Trachoma.....	2
Typhoid fever.....	5
Whooping cough.....	44

NEW MEXICO.

Chicken pox.....	5
Diphtheria.....	10
Influenza.....	5
Measles.....	52
Mumps.....	8
Pneumonia.....	2
Scarlet fever.....	7
Tuberculosis.....	36
Typhoid fever.....	14

NEW YORK.

(Exclusive of New York City.)

Diphtheria.....	84
Influenza.....	8
Lethargic encephalitis.....	2
Measles.....	103
Pneumonia.....	127
Poliomyelitis.....	13
Scarlet fever.....	144
Smallpox.....	15
Typhoid fever.....	35
Whooping cough.....	161

NORTH CAROLINA.

Cerebrospinal meningitis.....	1
Chicken pox.....	53
Diphtheria.....	181
German measles.....	3
Measles.....	35
Scarlet fever.....	76
Septic sore throat.....	7
Smallpox.....	16
Typhoid fever.....	12
Whooping cough.....	81

OKLAHOMA.

(Exclusive of Oklahoma City and Tulsa.)

Diphtheria.....	37
Smallpox.....	1
Typhoid fever.....	32

OREGON.

Chicken pox.....	35
Diphtheria:	
Portland.....	13
Scattering.....	27
Influenza.....	2
Mumps.....	5
Pneumonia.....	16
Poliomyelitis.....	11
Scarlet fever:	
Portland.....	10
Scattering.....	16
Septic sore throat.....	1
Smallpox.....	6
Tuberculosis.....	8
Typhoid fever.....	4

1 51 cases of smallpox in Johnson City not included.

2 Deaths.

SOUTH DAKOTA.

	Cases.
Chicken pox.....	19
Diphtheria.....	4
Pneumonia.....	2
Poliomyelitis.....	1
Scarlet fever.....	26
Smallpox.....	2
Typhoid fever.....	7
Whooping cough.....	1

TEXAS.

Anthrax.....	1
Chicken pox.....	14
Dengue.....	25
Diphtheria.....	47
Dysentery (epidemic).....	47
Influenza.....	273
Malta fever.....	2
Measles.....	28
Mumps.....	15
Ophthalmia neonatorum.....	2
Paratyphoid fever.....	4
Pellagra.....	20
Pneumonia.....	15
Scarlet fever.....	28
Smallpox.....	9
Tetanus.....	1
Trachoma.....	9
Tuberculosis.....	54
Typhoid fever.....	29
Typhus fever.....	2
Whooping cough.....	36

VERMONT.

Chicken pox.....	37
Diphtheria.....	3
Measles.....	14
Mumps.....	17
Scarlet fever.....	7
Whooping cough.....	9

WASHINGTON.

Chicken pox.....	102
Diphtheria.....	34
Lethargic encephalitis.....	1
Measles.....	11
Mumps.....	36
Pneumonia.....	1

WASHINGTON—continued.

Poliomyelitis:	Cases.
Grays Harbor County.....	1
Kings County.....	4
Kitsap County.....	1
Pierce County.....	1
Thurston County.....	2
Everett.....	1
Seattle.....	4
Spokane.....	3
Tacoma.....	5
Scarlet fever.....	34
Smallpox.....	5
Tuberculosis.....	14
Typhoid fever.....	9
Whooping cough.....	11

WEST VIRGINIA.

Diphtheria.....	23
Scarlet fever.....	16
Typhoid fever.....	6

WISCONSIN.

Milwaukee:	
Chicken pox.....	40
Diphtheria.....	21
German measles.....	6
Measles.....	27
Mumps.....	18
Scarlet fever.....	9
Smallpox.....	6
Tuberculosis.....	22
Whooping cough.....	18
Scattering:	
Chicken pox.....	153
Diphtheria.....	40
Influenza.....	7
Measles.....	39
Mumps.....	20
Pneumonia.....	6
Poliomyelitis.....	2
Scarlet fever.....	92
Smallpox.....	15
Tuberculosis.....	23
Typhoid fever.....	7
Whooping cough.....	100

Reports for Week Ended October 25, 1924.

DISTRICT OF COLUMBIA.

	Cases.
Chicken pox.....	3
Diphtheria.....	11
Poliomyelitis.....	2
Scarlet fever.....	20
Tuberculosis.....	25
Typhoid fever.....	5
Whooping cough.....	1

NEBRASKA.

Chicken pox.....	22
Diphtheria.....	45
Mumps.....	2
Pneumonia.....	1
Scarlet fever.....	22
Smallpox.....	4
Typhoid fever.....	1
Whooping cough.....	3

NORTH DAKOTA.

	Cases.
Cerebrospinal meningitis.....	2
Chicken pox.....	14
Diphtheria.....	8
German measles.....	1
Measles.....	26
Pneumonia.....	3
Poliomyelitis.....	5
Scarlet fever.....	39
Smallpox.....	5
Trachoma.....	3
Tuberculosis.....	4
Typhoid fever.....	7
Whooping cough.....	15

SUMMARY OF MONTHLY REPORTS FROM STATES.

The following summary of monthly State reports is published weekly and covers only those States from which reports are received during the current week:

State.	Cerebro-spinal meningitis.	Diphtheria.	Influenza.	Malaria.	Measles.	Pellagra.	Polio-myelitis.	Scarlet fever.	Small-pox.	Typhoid fever.
<i>September, 1924.</i>										
Alabama.....	3	127	63	801	41	34	0	52	116	314
Hawaii.....		14	22	1	4					7
Iowa.....	5	35			4		39	73	50	7
Maine.....	2	32	8		5		36	30		41
Montana.....		47	3		3		66	60	20	17
New Mexico.....	0	42	1	2	23	1	1	14	0	114
South Carolina.....	1	354	1	17	1	1	2			24
Virginia.....	5	378	509	273	50	15	19	156	3	200
Washington.....	4	121	0	0	20	0	258	111	53	80

Number of Cases of Certain Communicable Diseases Reported for the Month of August, 1924, by State Health Officers.

State.	Chicken pox.	Diphtheria.	Measles.	Mumps.	Scarlet fever.	Small-pox.	Tuberculosis.	Typhoid fever.	Whooping cough.
Alabama.....	10	61	17	42	50	85	155	471	113
Arizona.....	5	9	6	4	8	2	40	7	4
Arkansas.....	23	13	75	34	8	6	127	168	113
California.....	134	521	146	64	156	211	610	94	240
Colorado.....	24	69	5	10	44	1	297	31	105
Connecticut.....	15	91	38	30	81	1	137	44	148
Delaware.....		3	2	6	4		13	7	4
District of Columbia.....	3	20	1		27	1	133	17	45
Florida.....	4	22	9	7	2	1	114	66	46
Georgia.....	3	60	26	18	20	21	163	164	44
Idaho.....		11			5			15	
Illinois.....	133	269	205	145	208	46	1,799	168	782
Indiana.....		113			103			138	
Iowa.....	6	46	21	5	29	21		(?)	2
Kansas.....	8	56	18	76	104	13	147	132	174
Kentucky ¹									
Louisiana.....	1	35	13		12	12	170	128	16
Maine.....		31			64			47	
Maryland.....	16	88	77	35	37		276	182	234
Massachusetts.....	59	376	149	90	227		547	65	246
Michigan.....	135	260	152	82	436	71	541	90	556
Minnesota.....	57	188	15		293	115	335	41	78
Mississippi.....	228	82	99	368	43	29	320	438	548
Missouri.....	20	113	45	43	255	5	241	151	102
Montana.....	6	25	2	6	37	18	69	23	37
Nebraska.....									
Nevada.....									
New Hampshire.....									
New Jersey.....	66	189	101		103	16	424	78	811
New Mexico.....	1	24	24	3	6		87	41	13
New York.....	322	745	526	239	354	10	1,679	335	1,796
North Carolina.....	28	404	111		74	62		337	688
North Dakota.....									
Ohio.....	153	234	151	127	301	182	446	201	726
Oklahoma.....		8			9	4		79	
Oregon.....	12	98	10	3	43	39	67	26	10
Pennsylvania.....		531			375			317	
Rhode Island.....		24			13			7	
South Carolina.....	1	180	3		5	6	16	92	26
South Dakota.....	7	22	14	4	53	5	12	37	41
Tennessee.....	23	54	27		40	52	120	388	93
Texas.....									
Utah.....	229	44	230	19	21	1	13	59	68
Vermont.....	22	6	25	24	16		120		77
Virginia.....	101	178	112		82	11	1353	326	843
Washington.....	66	105	21	25	74	71	189	52	54
West Virginia.....	17	73	34		65	11	38	156	172
Wisconsin.....	100	124	143	17	156	53	95	19	452
Wyoming.....	2	5	2	6	11			6	20

¹ Pulmonary. ² Reports not required by law.
³ Reports not received at time of going to press.

⁴ Reports received weekly.
⁵ Reports received annually.

Case Rates per 1,000 Population (Annual Basis) for the Month of August, 1924.

State.	Chick- en pox.	Diph- theria.	Meas- les.	Mumps.	Scarlet fever.	Small- pox.	Tuber- culosis.	Ty- phoid fever.	Whoop- ing cough.
Alabama.....	0.05	0.29	0.08	0.20	0.24	0.41	0.75	2.27	0.55
Arizona.....	.15	.27	.18	.12	.24	.06	1.20	.21	.12
Arkansas.....	.15	.08	.48	.22	.05	.04	1.17	1.08	.73
California.....	.40	1.57	.44	.19	.47	.64	1.84	.28	.72
Colorado.....	.28	.81	.06	.12	.52	.01	3.49	.36	1.23
Connecticut.....	.12	.71	.30	.24	.64	.01	1.08	.35	1.16
Delaware.....		.15	.10	.30	.20		.66	.36	.20
District of Columbia.....	.08	.54	.03		.73	.03	3.59	.46	1.21
Florida.....	.04	.24	.10	.08	.02	.01	1.26	.73	.51
Georgia.....	.01	.23	.10	.07	.08	.08	1.05	.64	.17
Idaho.....		.27			.12			.37	
Illinois.....	.23	.46	.35	.25	.36	.08	3.09	.29	1.34
Indiana.....		.44			.40			.54	
Iowa.....	.03	.22	.10	.02	.14	.10		(9)	.01
Kansas.....	.05	.37	.12	.50	.68	.09	.96	.86	1.14
Kentucky ¹									
Louisiana.....	.01	.22	.08		.08	.08	1.08	.81	.10
Maine.....		.47			.97			.71	
Maryland.....	.12	.68	.60	.27	.29		2.14	1.41	1.82
Massachusetts.....	.39	1.09	.43	.26	.66		1.58	.19	.71
Michigan.....	.39	.75	.44	.24	1.27	.21	1.57	.29	1.61
Minnesota.....	.27	.88	.07		1.37	.54	1.56	.19	.36
Mississippi.....	1.50	.54	.65	2.43	.28	.19	2.11	2.89	3.61
Missouri.....	.07	.39	.15	.15	.87	.02	.82	.52	.35
Montana.....	.11	.47	.04	.11	.69	.34	1.30	.43	.69
Nebraska ⁴									
Nevada.....									
New Hampshire ¹									
New Jersey.....	.23	.65	.35		.35	.05	1.45	.27	2.78
New Mexico.....	.03	.75	.75	.09	.19		2.73	1.29	.41
New York.....	.35	.80	.57	.26	.38	.01	1.81	.36	1.93
North Carolina.....	.12	1.75	.48		.32	.27		1.46	2.98
North Dakota ⁴									
Ohio.....	.29	.44	.29	.24	.57	.35	.85	.38	1.38
Oklahoma.....	.17	.04			.05	.02		.42	
Oregon.....	.17	1.39	.14	.04	.61	.55	.95	.37	.14
Pennsylvania.....		.68			.48			.41	
Rhode Island.....		.45			.24			.13	
South Carolina.....	.01	1.21	.02		.03	.04	.11	.62	.17
South Dakota.....	.13	.39	.25	.07	.95	.09	.21	.66	.73
Tennessee.....	.11	.26	.13		.20	.25	.59	1.90	.46
Texas ⁴									
Utah.....	5.58	1.07	5.60	.46	.51	.02	.32	1.44	1.66
Vermont.....	.74	.20	.84	.80	.54		1.67		2.58
Virginia.....	.49	.87	.55		.40	.05	1.72	1.59	4.11
Washington.....	.54	.85	.17	.20	.60	.58	1.53	.42	.44
West Virginia.....	.13	.55	.25		.49	.08	.28	1.17	1.29
Wisconsin.....	.43	.53	.61	.07	.66	.23	.40	.08	1.93
Wyoming.....	.11	.27	.11	.33	.60			.33	1.09

¹ Pulmonary.² Reports not required by law.³ Reports received weekly.⁴ Reports not received at time of going to press.⁵ Reports received annually.

GENERAL CURRENT SUMMARY AND WEEKLY REPORTS FROM CITIES.

Diphtheria.—For the week ended October 18, 1924, 35 States reported 2,227 cases of diphtheria. For the week ended October 20, 1923, the same States reported 3,210 cases of this disease. One hundred and two cities, situated in all parts of the country, and having an aggregate population of more than 28,700,000, reported 929 cases of diphtheria for the week ended October 18, 1924. Last year, for the corresponding week, they reported 1,299 cases. The estimated expectancy for these cities was 1,356 cases of diphtheria. The estimated expectancy is based on the experience of the last nine years, excluding epidemics.

Measles.—Thirty-one States reported 519 cases of measles for the week ended October 18, 1924, and 2,419 cases of this disease for the week ended October 20, 1923. One hundred and two cities reported 193 cases of measles for the week this year and 519 cases last year.

Scarlet fever.—Scarlet fever was reported for the week as follows: Thirty-five States—this year, 2,014 cases; last year, 2,529 cases. One hundred and two cities—this year, 792; last year, 909 cases; estimated expectancy, 681 cases.

Smallpox.—For the week ended October 18, 1924, 35 States reported 327 cases of smallpox. Last year, for the corresponding week, they reported 234 cases. One hundred and two cities reported smallpox for the week as follows: 1924, 99 cases; 1923, 57 cases; estimated expectancy, 42 cases. These cities reported 4 deaths from smallpox for the week this year.

Typhoid fever.—Six hundred and fifteen cases of typhoid fever were reported for the week ended October 18, 1924, by 34 States. For the corresponding week of 1923 the same States reported 624 cases. One hundred and two cities reported 158 cases of typhoid fever for the week this year and 171 cases for the week last year. The estimated expectancy for these cities was 162 cases.

Influenza and pneumonia.—Deaths from influenza and pneumonia (combined) were reported for the week by 102 cities as follows: 1924, 513 deaths; 1923, 495 deaths.

City reports for week ended October 18, 1924.

The "estimated expectancy" given for diphtheria, poliomyelitis, scarlet fever, smallpox, and typhoid fever is the result of an attempt to ascertain from previous occurrence how many cases of the disease under consideration may be expected to occur during a certain week in the absence of epidemics. It is based on reports to the Public Health Service during the past nine years. It is in most instances the median number of cases reported in the corresponding week of the preceding years. When the reports include several epidemics, or when for other reasons the median is unsatisfactory, the epidemic periods are excluded and the estimated expectancy is the mean number of cases reported for the week during nonepidemic years. If reports have not been received for the full nine years, data are used for as many years as possible, but no year earlier than 1915 is included. In obtaining the estimated expectancy, the figures are smoothed when necessary to avoid abrupt deviations from the usual trend. For some of the diseases given in the table the available data were not sufficient to make it practicable to compute the estimated expectancy.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.	
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.
NEW ENGLAND.										
Maine:										
Lewiston.....	0	1	0	0	0	4	0	0	2	0
Portland.....	11	2	1	0	0	0	7	2	1	1
New Hampshire:										
Concord.....	0	0	2	0	0	0	0	0	1	0
Nashua.....	0	1	2	0	0	0	0	0	1	0
Vermont:										
Barre.....	0	0	0	0	0	0	2	0	1	2
Massachusetts:										
Boston.....	8	55	46	0	0	17	0	18	25	49
Fall River.....	1	4	2	0	0	0	0	1	2	2
Springfield.....	8	5	4	0	0	6	5	0	5	14
Worcester.....	0	8	11	0	0	0	0	3	6	5

City reports for week ended October 18, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.		
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.	
NEW ENGLAND— continued.											
Rhode Island:											
Pawtucket.....	0	2	5	0	0	0	0	0	1	2	
Providence.....	0	10	4	0	0	0	0	3	4	5	
Connecticut—											
Bridgeport.....	2	10	4	1	1	0	0	0	4	6	
Hartford.....	0	7	3	0	0	0	2	0	3	6	
New Haven.....	2	6	0	0	0	2	1	1	3	7	
MIDDLE ATLANTIC.											
New York:											
Buffalo.....	0	27	16	0	0	38	0	5	13	6	
New York.....	59	145	121	13	10	14	18	138	61	55	
Rochester.....	14	10	0	0	0	2	4	5	5	6	
Syracuse.....	1	12	9	0	0	1	0	6	9	3	
New Jersey:											
Camden.....	1	9	10	0	0	0	0	3	1	5	
Newark.....	11	18	9	1	0	10	2	13	9	4	
Trenton.....	0	6	1	0	0	0	0	0	1	2	
Pennsylvania:											
Philadelphia.....	20	62	64	1	1	20	0	24	35	50	
Pittsburgh.....	73	37	27	1	0	12	17	26	22	37	
Reading.....	1	4	2	0	0	0	6	1	1	0	
E. NORTH CENTRAL.											
Ohio:											
Cincinnati.....	6	24	10	0	0	4	1	3	11	12	
Cleveland.....	25	50	24	1	1	5	4	12	26	12	
Columbus.....	4	10	3	0	0	0	2	0	8	3	
Toledo.....	2	17	2	0	0	1	0	4	10	9	
Indiana:											
Fort Wayne.....	0	4	4	0	0	0	0	0	1	3	
Indianapolis.....	11	25	10	0	0	0	3	10	8	4	
South Bend.....	6	2	0	0	0	0	0	3	1	0	
Terre Haute.....	3	4	1	0	0	0	0	0	2	1	
Illinois:											
Chicago.....	53	165	61	9	2	19	12	33	91	63	
Cicero.....	4	8	2	0	0	0	0	0	2	4	
Peoria.....	2	3	0	0	0	0	0	0	11	4	
Springfield.....		3	4	1	0	0		2	3	1	
Michigan:											
Detroit.....	15	81	38	2	0	7	6	23	50	43	
Flint.....	0	14	2	0	0	0	2	0	7	4	
Grand Rapids.....	6	8	4	0	0	0	2	2	8	6	
Wisconsin:											
Madison.....	4	1	0	0		4	14		1	4	
Milwaukee.....	29	26	11	0	0	3	12	0	24	12	
Racine.....	0	2	2	0	0	0	6	2	6	3	
Superior.....	0	1	0	0	0	0	0	0	2	1	
W. NORTH CENTRAL.											
Minnesota:											
Duluth.....	16	7	10	0	0	0	0	1	2	24	
Minneapolis.....	44	29	34	0	0	2	1	5	19	21	
St. Paul.....		21	17	0	0	0		3	9	15	
Iowa:											
Davenport.....	0	2	2	0		0	0		1	1	
Des Moines.....	0	9	3	0		0	0		12	3	
Sioux City.....	1	2	0	0		0	0		2	2	
Waterloo.....	3	1	0	0		0	0		4	0	
Missouri:											
Kansas City.....	10	17	4	2	2	0	1	8	8	13	
St. Joseph.....	1	5	2	0	0	0	0	0	3	1	
St. Louis.....	15	81	52	0	0	3	3		25	134	
North Dakota:											
Fargo.....	4	1	0	0	0	0	0	4	2	0	
Grand Forks.....	0	2	0	0		0	0		2	1	
South Dakota:											
Aberdeen.....	11		0	0		0				2	
Sioux Falls.....	1	1	5	0	0	0	0	0	1	0	

City reports for week ended October 18, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.		
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.	
W. NORTH CEN- TRAL—CON.											
Nebraska:											
Lincoln.....	3	2	5	0	0	0	0	0	1	0	
Omaha.....	4	12	7	0	0	0	0	1	3	8	
Kansas:											
Topeka.....	2	3	3	0	0	1	2	1	2	6	
Wichita.....	3	5	2	0	0	1	3	0	3	2	
SOUTH ATLANTIC.											
Delaware:											
Wilmington.....	1	2	6	0	0	0	0	3	4	1	
Maryland:											
Baltimore.....	16	29	22	8	1	1	12	18	12	10	
Cumberland.....		1	2	0	0	0	0	0	1	0	
Frederick.....		1	2	0	0	0	0	0	0	0	
District of Colum- bia:											
Washington.....	1	17	11	0	0	1	0	6	11	11	
Virginia:											
Lynchburg.....		1	5	0	0	0	14	1	1	2	
Norfolk.....	2	4	3	0	0	0	6	0	1	0	
Richmond.....	1	15	25	0	0	0	0	5	7	7	
Roanoke.....		4	3	0	0	0	0	0	2	0	
West Virginia:											
Charleston.....	17	5	3	0	0	0	0	1	2	0	
Huntington.....	0	7	1	0	0	0	0	0	1	4	
Wheeling.....	7	3	1	0	0	1	0	5	2	4	
North Carolina:											
Raleigh.....	0	4	4	0	0	0	0	0	3	0	
Wilmington.....	0	1	2	0	0	0	1	0	1	3	
Winston-Salem.....	0	4	20	0	0	1	0	1	3	1	
South Carolina:											
Charleston.....	0	1	1	0	0	0	1	1	1	2	
Columbia.....	0	3	1	0	0	0	0	0	1	0	
Greenville.....	0	2	1	0	0	0	0	1	1	0	
Georgia:											
Atlanta.....	2	12	8	0	0	0	1	5	7	5	
Brunswick.....	0	1	0	0	0	0	1	0	0	0	
Savannah.....	0	5	1	0	0	0	0	2	1	2	
Florida:											
St. Petersburg.....	0	0	0	0	0	0	0	1	0	0	
Tampa.....		3	0	0	0	0	0	0	0	0	
E. SOUTH CENTRAL.											
Kentucky:											
Covington.....	0	3	1	0	0	0	0	0	2	3	
Louisville.....	0	15	14	0	0	0	0	2	4	1	
Tennessee:											
Memphis.....	3	12	15	0	0	0	2	7	4	4	
Nashville.....		7	1	0	0	0	0	4	4	0	
Alabama:											
Birmingham.....	2	8	4	2	1	0	0	5	6	3	
Mobile.....	0	3	2	0	0	1	0	1	1	0	
Montgomery.....	0	3	5	0	0	0	1	0	1	0	
W. SOUTH CENTRAL.											
Arkansas:											
Fort Smith.....	0	3	3	0	0	0	2	0	1	5	
Little Rock.....	0	3	0	0	0	0	0	0	2	0	
Louisiana:											
New Orleans.....	0	13	10	1	1	1	0	4	4	1	
Shreveport.....	0	0	1	0	0	0	0	1	0	0	
Oklahoma:											
Oklahoma.....	0	4	4	0	0	0	0	1	3	1	
Tulsa.....	0	6	1	0	0	0	1	0	4	2	
Texas:											
Dallas.....	3	13	7	0	0	1	0	2	3	3	
Galveston.....	0	1	0	0	0	0	0	0	0	0	
Houston.....		3	5	0	0	0	0	4	1	1	
San Antonio.....		0	2	8	0	0	0	5	0	0	

City reports for week ended October 18, 1924—Continued.

Division, State, and city.	Chick- en pox, cases re- ported.	Diphtheria.		Influenza.		Meas- les, cases re- ported.	Mumps, cases re- ported.	Pneu- monia, deaths re- ported.	Scarlet fever.		
		Cases, esti- mated expect- ancy.	Cases re- ported.	Cases re- ported.	Deaths re- ported.				Cases, esti- mated expect- ancy.	Cases re- ported.	
MOUNTAIN.											
Montana:											
Billings.....	0	1	0	0	0	0	0	0	0	0	0
Great Falls.....	0	1	4	0	0	1	0	2	1	1	1
Helena.....	0	0	0	0	0	0	0	0	0	0	2
Missoula.....	0	1	4	0	0	0	0	1	0	0	0
Idaho:											
Boise.....	0	0	0	0	0	0	0	0	1	2	2
Colorado:											
Denver.....	20	14	7	0	0	2	7	14	5	10	10
Pueblo.....	4	5	1	0	0	0	3	2	1	1	1
New Mexico:											
Albuquerque.....		2	0	0	0	0		1	1	0	0
Utah:											
Salt Lake City.....	22	3	2	0	0	2	5	3	4	1	1
Nevada:											
Reno.....	1	0	0	0	0	0	0	0	0	2	2
PACIFIC.											
Washington:											
Seattle.....	23	7	10	0		4	3		7	6	6
Spokane.....	7	6	7	0		0	0		6	4	4
Tacoma.....	0	3	4	0		0	1		1	0	0
Oregon:											
Portland.....	8	6	9	0	0	0	0	4	6	5	5
California:											
Los Angeles.....	16	37	37	12	0	5	9	17	10	19	19
Sacramento.....	1	2	0	0	0	0	0	3	1	0	0
San Francisco.....	7	19	16	3	0	1	8	8	6	2	2

Division, State, and city.	Popula- tion July 1, 1923, estimated.	Smallpox.				Tubercu- losis, deaths re- ported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.	Cases, estimated expectancy.		Cases reported.	Deaths reported.			
NEW ENGLAND.											
Maine:											
Lewiston.....	33,790	0	0	0	0	0	1	0	0	11	
Portland.....	73,129	0	0	0	0	1	3	0	0	18	
New Hampshire:											
Concord.....	22,408	0	0	0	0	0	0	0	0	9	
Nashua.....	29,234	0	0	0	1	0	0	0	0	13	
Vermont:											
Barre.....	10,008	0	0	0	0	0	0	0	0	4	
Massachusetts:											
Boston.....	770,400	0	0	0	15	5	2	0	34	208	
Fall River.....	120,912	0	0	0	4	1	1	0	1	30	
Springfield.....	144,227	0	0	0	0	0	1	0	3	22	
Worcester.....	191,927	0	0	0	2	1	0	0	2	38	
Rhode Island:											
Pawtucket.....	68,799	0	0	0	0	0	0	0	0	29	
Providence.....	242,378	0	0	0	0	1	0	0	1	49	
Connecticut:											
Bridgeport.....	¹ 143,555	0	0	0	2	1	0	1	0	23	
Hartford.....	¹ 138,036	0	0	0	0	1	0	0	0	17	
New Haven.....	172,967	0	0	0	3	3	1	0	4	40	

¹ Population Jan 1, 1920.

City reports for week ended October 18, 1924—Continued.

Division, State, and city.	Population July 1, 1923, estimated.	Smallpox.			Tuberculosis, deaths re- ported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
MIDDLE ATLANTIC.										
New York:										
Buffalo.....	536,718	0	0	0	10	2	2	1	17	107
New York.....	5,927,625	0	0	0	92	25	31	2	135	1,193
Rochester.....	317,867	0	0	0	4	1	0	0	7	74
Syracuse.....	184,511	0	0	0	3	2	2	0	2	43
New Jersey:										
Camden.....	124,157	0	0	0	0	2	0	1	0	32
Newark.....	438,699	0	0	0	7	3	0	0	39	102
Trenton.....	127,390	0	0	0	2	1	1	1	4	32
Pennsylvania:										
Philadelphia.....	1,922,788	0	0	0	30	11	9	3	65	419
Pittsburgh.....	613,442	0	0	0	11	3	1	0	8	176
Reading.....	110,917	0	0	0	1	1	1	0	11	19
EAST NORTH CENTRAL.										
Ohio:										
Cincinnati.....	406,312	0	1	0	14	1	0	0	1	121
Cleveland.....	888,519	1	0	0	9	3	0	0	30	147
Columbus.....	261,082	1	7	0	4	2	0	1	10	68
Toledo.....	268,338	0	1	1	7	2	0	1	9	58
Indiana:										
Fort Wayne.....	93,573	0	2	0	0	0	2	0	2	18
Indianapolis.....	342,718	0	2	0	6	1	0	1	4	77
South Bend.....	76,709	1	4	0	1	1	0	0	0	17
Terre Haute.....	68,939	0	0	0	1	0	0	0	0	20
Illinois:										
Chicago.....	2,886,121	1	9	0	50	8	7	1	94	572
Cicero.....	55,968	0	0	0	1	0	0	0	6	7
Peoria.....	79,675	0	0	0	3	0	0	0	1	13
Springfield.....	61,833	0	0	0	1	1	1	0	—	20
Michigan:										
Detroit.....	995,668	2	4	1	16	6	4	0	25	227
Flint.....	117,968	0	0	0	1	1	0	0	1	11
Grand Rapids.....	145,947	1	1	0	0	0	3	0	2	28
Saginaw.....	69,754	0	—	—	—	2	—	—	—	—
Wisconsin:										
Madison.....	42,519	0	0	—	—	0	0	—	6	4
Milwaukee.....	484,595	3	0	0	0	1	0	0	29	94
Racine.....	64,393	1	0	0	1	0	0	0	11	7
Superior.....	139,671	1	0	0	1	0	0	0	0	11
WEST NORTH CENTRAL.										
Minnesota:										
Duluth.....	106,289	1	0	0	0	1	0	0	3	8
Minneapolis.....	409,125	2	21	3	3	1	2	1	2	76
St. Paul.....	241,891	4	3	0	1	2	1	0	—	62
Iowa:										
Davenport.....	61,262	1	0	—	—	0	0	—	0	—
Des Moines.....	140,923	0	0	—	—	0	0	—	0	—
Sioux City.....	79,662	1	0	—	—	0	0	—	0	—
Waterloo.....	39,667	0	0	—	—	1	1	1	1	—
Missouri:										
Kansas City.....	351,819	2	0	0	7	2	2	1	0	87
St. Joseph.....	78,232	1	0	0	0	1	0	0	0	27
St. Louis.....	803,838	0	0	0	9	4	5	0	3	177
North Dakota:										
Fargo.....	24,841	0	0	0	0	0	0	0	2	11
Grand Forks.....	14,547	1	0	—	—	0	0	—	0	—
South Dakota:										
Aberdeen.....	15,829	—	4	—	—	—	1	—	8	—
Sioux Falls.....	29,206	1	2	0	0	1	0	0	0	5
Nebraska:										
Lincoln.....	58,761	1	0	0	0	0	0	0	0	9
Omaha.....	204,382	1	1	0	0	1	0	1	0	42
Kansas:										
Topeka.....	52,555	0	0	0	1	0	0	0	2	22
Wichita.....	79,261	1	0	0	0	0	0	0	8	16

¹ Population Jan. 1, 1920.

² Pulmonary only.

City reports for week ended October 18, 1924—Continued.

Division, State, and city.	Population, July 1, 1923, estimated.	Smallpox.			Tuberculosis, deaths re- ported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.		Cases, estimated expectancy.	Cases reported.	Deaths reported.		
SOUTH ATLANTIC.										
Delaware:										
Wilmington.....	117,728	0	0	0	0	2	1	0	0	29
Maryland:										
Baltimore.....	773,580	0	0	0	17	8	5	1	53	205
Cumberland.....	32,361	0	0	0	0	1	0	0	0	6
Frederick.....	11,301	0	0	0	1	0	0	0	0	3
District of Columbia:										
Washington.....	¹ 437,571	0	0	0	15	4	3	1	2	120
Virginia:										
Lynchburg.....	36,277	0	0	0	1	1	0	0	2	10
Norfolk.....	159,089	0	0	0	3	1	0	0	0	0
Richmond.....	181,044	0	0	0	4	1	0	1	0	52
Roanoke.....	55,502	0	0	0	2	1	1	0	0	15
West Virginia:										
Charleston.....	45,597	0	0	0	0	0	2	1	0	14
Huntington.....	57,918	0	0	0	0	0	0	0	0	0
Wheeling.....	¹ 56,208	0	0	0	1	1	1	0	0	22
North Carolina:										
Raleigh.....	29,171	0	0	0	2	0	0	0	0	14
Wilmington.....	35,719	0	0	0	4	1	0	0	5	10
Winston-Salem.....	56,230	0	0	0	0	0	1	0	5	17
South Carolina:										
Charleston.....	71,245	0	0	0	1	2	1	0	0	13
Columbia.....	39,688	0	0	0	0	1	0	0	5	24
Greenville.....	25,789	0	0	0	1	0	1	0	0	7
Georgia:										
Atlanta.....	222,963	1	0	0	4	1	0	1	0	82
Brunswick.....	15,937	0	0	0	0	0	0	0	0	2
Savannah.....	89,448	0	0	0	0	1	4	0	0	22
Florida:										
St. Petersburg.....	24,403	0	0	0	0	0	0	0	0	9
Tampa.....	56,050	0	0	0	3	0	0	0	0	12
EAST SOUTH CENTRAL.										
Kentucky:										
Covington.....	37,877	0	0	0	1	0	0	1	0	18
Lexington.....	43,673	0	0	0	0	0	0	0	0	0
Louisville.....	257,671	0	0	0	7	3	1	0	4	78
Tennessee:										
Memphis.....	170,067	0	1	0	4	1	3	0	0	72
Nashville.....	121,128	0	3	0	3	3	1	0	0	40
Alabama:										
Birmingham.....	195,901	0	11	0	7	1	6	0	0	62
Mobile.....	63,858	0	0	0	0	1	0	0	0	13
Montgomery.....	45,383	0	0	0	0	0	1	0	0	15
WEST SOUTH CENTRAL.										
Arkansas:										
Fort Smith.....	30,635	0	0	0	0	1	0	0	0	0
Little Rock.....	70,916	0	0	0	0	1	1	0	0	0
Louisiana:										
New Orleans.....	404,575	0	0	0	8	3	7	1	0	132
Shreveport.....	54,500	0	0	0	5	0	0	0	0	29
Oklahoma:										
Oklahoma.....	101,150	0	0	0	1	0	1	0	0	18
Tulsa.....	102,018	0	0	0	0	1	1	0	2	0
Texas:										
Dallas.....	177,274	0	0	0	3	2	3	0	1	35
Galveston.....	46,877	0	0	0	0	0	1	0	0	7
Houston.....	154,970	0	3	0	1	1	0	0	0	37
San Antonio.....	184,727	0	0	0	5	0	0	0	0	47

¹ Population Jan. 1, 1920.

City reports for week ended October 18, 1924—Continued.

Division, State, and city.	Popula- tion, July 1, 1923, estimated.	Smallpox.				Tuberculosis, deaths reported.	Typhoid fever.			Whooping cough, cases reported.	Deaths, all causes.
		Cases, estimated expectancy.	Cases reported.	Deaths reported.	Cases, estimated expectancy.		Cases reported.	Deaths reported.			
MOUNTAIN.											
Montana:											
Billings.....	16,927	0	0	0	0	0	1	0	2	7	
Great Falls.....	27,787	1	1	0	0	1	0	0	0	7	
Helena.....	12,037	0	1	0	0	0	0	0	0	2	
Missoula.....	12,668	0	0	0	0	0	1	0	0	7	
Idaho:											
Boise.....	22,806	0	0	0	0	0	0	0	0	5	
Colorado:											
Denver.....	272,031	2	0	0	14	2	2	0	76		
Pueblo.....	43,519	1	0	0	1	1	0	0	11		
New Mexico:											
Albuquerque.....	16,648	0	0	0	1	2	0	0	4		
Utah—											
Salt Lake City.....	126,241	2	0	0	1	2	10	2	1	24	
Nevada:											
Reno.....	12,429	0	0	0	0	1	0	0	0	0	
PACIFIC.											
Washington:											
Seattle.....	315,685	1	0	—	—	1	1	—	3	—	
Spokane.....	104,573	4	1	—	—	1	1	—	2	—	
Tacoma.....	101,731	1	0	—	—	0	1	—	0	—	
Oregon:											
Portland.....	273,621	3	4	0	0	2	4	0	1	—	
California:											
Los Angeles.....	666,853	1	18	0	18	5	4	0	13	192	
Sacramento.....	69,950	0	3	0	0	1	1	1	0	25	
San Francisco.....	539,038	1	0	0	6	2	1	1	1	131	

Division, State, and city.	Cerebro-spinal meningitis.		Lethargic encephalitis.		Pellagra.		Poliomyelitis (infantile paralysis).			Typhus fever.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. expectancy.	Cases.	Deaths.	Cases.	Deaths.
NEW ENGLAND.											
Massachusetts:											
Boston.....	2	0	0	0	0	0	1	2	0	0	0
Springfield.....	0	0	0	0	0	0	0	1	0	0	0
Worcester.....	0	0	0	0	0	0	0	1	0	0	0
Rhode Island:											
Providence.....	0	0	0	0	0	0	0	1	0	0	0
Connecticut:											
Hartford.....	1	0	0	0	0	0	0	0	0	0	0
New Haven.....	0	1	0	0	0	0	0	0	0	0	0
MIDDLE ATLANTIC.											
New York:											
New York.....	1	1	8	5	0	0	7	22	6	0	0
Syracuse.....	0	0	0	0	0	0	0	3	1	0	0
New Jersey:											
Trenton.....	0	0	0	0	0	0	0	1	1	0	0
Pennsylvania:											
Philadelphia.....	0	0	1	1	0	0	1	2	0	0	0
Pittsburgh.....	0	0	0	2	0	0	1	1	0	0	0

¹ Population Jan. 1, 1920.

City reports for week ended October 18, 1924—Continued.

Division, State, and city.	Cerebro-spinal meningitis.		Lethargic encephalitis.		Pellagra.		Poliomyelitis (infantile paralysis).		Typhus fever.		
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	Cases, est. expectancy.	Cases.	Deaths.	Cases.	Deaths.
EAST NORTH CENTRAL.											
Ohio:											
Cincinnati.....	0	0	0	0	0	0	0	1	0	0	0
Cleveland.....	1	0	0	0	0	0	1	4	0	0	0
Columbus.....	0	0	0	1	0	0	0	0	0	0	0
Toledo.....	0	0	0	0	0	0	0	0	1	0	0
Illinois:											
Chicago.....	1	0	0	0	0	0	4	2	0	0	0
Michigan:											
Detroit.....	0	0	1	0	0	0	1	22	3	0	0
Flint.....	0	0	0	0	0	0	0	1	0	0	0
WEST NORTH CENTRAL.											
Minnesota:											
Minneapolis.....	0	0	1	0	0	0	0	2	0	0	0
St. Paul.....	0	1	0	0	0	0	0	0	0	0	0
Iowa:											
Waterloo.....	0	0	0	0	0	0	1	0	0	0	0
South Dakota:											
Sioux Falls.....	1	1	0	0	0	0	0	0	0	0	0
Nebraska:											
Omaha.....	1	0	0	0	0	0	0	0	0	0	0
SOUTH ATLANTIC.											
Maryland:											
Baltimore.....	1	0	0	0	0	0	1	6	0	1	0
District of Columbia:											
Washington.....	0	0	0	0	0	0	0	1	0	0	0
Virginia:											
Norfolk.....	0	0	0	0	0	0	0	2	0	0	0
West Virginia:											
Charleston.....	1	1	0	0	0	0	0	0	0	0	0
North Carolina:											
Raleigh.....	1	0	0	0	0	0	0	0	0	0	0
Georgia:											
Atlanta.....	0	0	0	0	0	2	0	0	0	0	0
EAST SOUTH CENTRAL.											
Tennessee:											
Memphis.....	0	0	0	0	1	0	0	0	0	0	0
Nashville.....	0	0	0	0	0	1	0	0	0	0	0
Alabama:											
Birmingham.....	0	0	0	0	1	1	0	0	0	0	0
WEST SOUTH CENTRAL.											
Arkansas:											
Little Rock.....	0	0	0	0	0	1	0	0	0	0	0
Texas:											
Dallas.....	0	0	0	0	0	1	0	0	0	0	0
MOUNTAIN.											
Montana:											
Helena.....	0	0	0	0	0	0	0	1	0	0	0
Nevada:											
Reno.....	0	0	0	0	0	0	0	5	0	0	0
PACIFIC.											
Washington:											
Seattle.....	0	0	0	0	0	0	1	6	0	0	0
Spokane.....	0	0	0	0	0	0	0	8	0	0	0
Tacoma.....	0	0	0	0	0	0	0	13	0	0	0
Oregon:											
Portland.....	0	0	0	1	0	0	0	4	1	0	0
California:											
Los Angeles.....	1	0	1	0	0	0	0	0	0	1	0
San Francisco.....	0	0	0	0	1	0	0	2	0	0	0

1 Population Jan. 1, 1920.

The following table gives a summary of the reports from 105 cities for the 10-week period ended October 18, 1924. The cities included in this table are those whose reports have been published for all 10 weeks in the Public Health Reports. Eight of these cities did not report deaths. The aggregate population of the cities reporting cases was estimated at nearly 29,000,000 on July 1, 1923, which is the latest date for which estimates are available. The cities reporting deaths had more than 28,000,000 population on that date. The number of cities included in each group and the aggregate population are shown in a separate table below.

Summary of weekly reports from cities, August 10 to October 18, 1924.

DIPHTHERIA CASES.

	1924, week ended—									
	Aug. 16.	Aug. 23.	Aug. 30.	Sept. 6.	Sept. 13.	Sept. 20.	Sept. 27.	Oct. 4.	Oct. 11.	Oct. 18.
Total.....	456	494	480	455	521	643	779	757	883	936
New England.....	47	48	35	49	¹ 35	56	55	56	77	82
Middle Atlantic.....	149	189	167	139	139	177	255	198	209	259
East North Central.....	91	88	² 69	85	88	³ 125	151	134	174	176
West North Central.....	38	49	50	47	91	90	92	116	126	136
South Atlantic.....	40	39	⁴ 68	70	⁵ 73	94	89	97	142	121
East South Central.....	7	9	8	7	7	13	22	20	28	42
West South Central.....	13	15	11	10	18	13	24	23	26	28
Mountain.....	22	14	16	19	12	15	18	24	14	18
Pacific.....	49	43	56	29	58	60	73	89	87	74

MEASLES CASES.

Total.....	178	136	121	109	102	94	104	134	130	193
New England.....	23	23	26	11	¹ 14	9	⁶ 15	15	21	25
Middle Atlantic.....	65	46	41	56	40	36	⁶ 38	65	56	97
East North Central.....	51	37	² 25	18	25	³ 28	⁶ 29	29	22	42
West North Central.....	7	4	9	3	4	2	⁶ 7	9	5	7
South Atlantic.....	16	10	⁴ 11	11	⁵ 11	8	3	2	10	4
East South Central.....	4	5	1	1	1	0	⁶ 2	1	2	1
West South Central.....	1	1	0	1	0	1	⁶ 1	2	2	2
Mountain.....	1	1	4	2	4	0	⁶ 3	2	0	5
Pacific.....	10	9	4	6	3	10	⁶ 6	9	12	10

SCARLET FEVER CASES.

Total.....	248	291	307	253	359	455	586	570	774	795
New England.....	24	28	29	35	¹ 33	38	46	55	89	99
Middle Atlantic.....	49	55	69	50	48	97	128	129	154	168
East North Central.....	57	74	² 74	68	97	³ 99	123	128	178	176
West North Central.....	61	75	58	48	104	142	172	148	218	227
South Atlantic.....	12	21	⁴ 26	22	⁵ 24	32	36	29	46	48
East South Central.....	10	13	9	2	6	14	17	13	21	11
West South Central.....	9	5	5	5	10	10	8	13	17	16
Mountain.....	5	4	17	3	10	9	16	18	15	19
Pacific.....	21	16	20	20	27	14	40	37	36	31

¹ Figures for Barre, Vt., estimated. Report not received at time of going to press.

² Figures for Cleveland, Ohio, estimated.

³ Figures for Superior, Wis., estimated.

⁴ Figures for Raleigh, N. C., estimated.

⁵ Figures for Wilmington, Del., and Tampa, Fla., estimated.

⁶ Corrected figure.

Summary of weekly reports from cities, August 10 to October 18, 1924—Continued.

SMALLPOX CASES.

	1924, week ended—									
	Aug. 16.	Aug. 23.	Aug. 30.	Sept. 6.	Sept. 13.	Sept. 20.	Sept. 27.	Oct. 4.	Oct. 11.	Oct. 18.
Total.....	93	71	88	66	64	86	84	86	72	99
New England.....	0	0	0	0	10	0	0	0	0	0
Middle Atlantic.....	8	3	11	4	2	3	6	8	3	0
East North Central.....	16	20	¹ 12	9	16	¹ 14	27	23	21	30
West North Central.....	28	5	25	9	11	23	19	15	21	27
South Atlantic.....	6	4	² 2	5	² 2	1	3	6	2	0
East South Central.....	13	14	13	16	3	8	5	6	2	15
West South Central.....	0	1	1	1	4	3	1	0	0	3
Mountain.....	1	2	2	0	0	2	1	1	0	2
Pacific.....	21	22	22	22	26	32	22	27	23	22

TYPHOID FEVER CASES.

Total.....	232	238	220	199	229	195	281	217	214	159
New England.....	15	8	12	6	¹ 9	12	11	9	16	8
Middle Atlantic.....	63	65	41	50	59	54	59	67	45	47
East North Central.....	29	22	² 22	27	31	² 25	39	25	15	17
West North Central.....	22	17	28	11	19	21	17	15	16	11
South Atlantic.....	37	35	⁴ 34	36	⁴ 47	32	50	35	23	20
East South Central.....	24	49	48	32	25	15	51	29	17	12
West South Central.....	26	29	25	10	15	15	17	7	15	12
Mountain.....	9	0	7	13	9	8	18	18	58	23
Pacific.....	7	13	3	14	15	13	19	12	9	9

INFLUENZA DEATHS.

Total.....	8	7	13	4	6	7	18	20	21	20
New England.....	0	0	1	0	¹ 0	1	1	0	1	1
Middle Atlantic.....	4	1	4	3	2	1	5	10	13	11
East North Central.....	2	2	³ 3	0	3	³ 0	2	4	4	3
West North Central.....	0	0	0	0	0	1	1	1	0	2
South Atlantic.....	0	3	² 2	1	¹ 1	1	3	1	1	1
East South Central.....	0	0	1	0	0	0	3	1	0	1
West South Central.....	0	1	2	0	0	3	1	1	1	1
Mountain.....	0	0	0	0	0	0	1	1	1	0
Pacific.....	2	0	0	0	0	0	1	1	0	0

PNEUMONIA DEATHS.

Total.....	271	251	315	313	306	308	372	438	494	497
New England.....	14	12	19	14	¹ 16	12	20	29	39	28
Middle Atlantic.....	115	102	136	152	120	125	152	178	217	221
East North Central.....	48	48	³ 55	53	53	³ 67	82	94	84	90
West North Central.....	17	13	18	9	23	22	18	16	25	23
South Atlantic.....	32	38	⁴ 34	32	⁴ 37	37	42	52	50	50
East South Central.....	10	5	12	17	15	9	14	22	15	19
West South Central.....	12	10	11	8	10	13	13	11	31	16
Mountain.....	7	10	13	11	10	8	11	11	15	22
Pacific.....	16	13	17	17	22	15	20	25	18	28

¹ Figures for Barre, Vt., estimated. Report not received at time of going to press.² Figures for Cleveland, Ohio, estimated.³ Figures for Superior, Wis., estimated.⁴ Figures for Raleigh, N. C., estimated.⁵ Figures for Wilmington, Del., and Tampa, Fla., estimated.

Number of cities included in summary of weekly reports and aggregate population of cities in each group, estimated as of July 1, 1923.

Group of cities.	Number of cities reporting cases.	Number of cities reporting deaths.	Aggregate population of cities reporting cases.	Aggregate population of cities reporting deaths.
Total.....	105	97	28,898,350	28,140,934
New England.....	12	12	2,098,746	2,098,746
Middle Atlantic.....	10	10	10,304,114	10,304,114
East North Central.....	17	17	7,032,535	7,032,535
West North Central.....	14	11	2,515,330	2,381,454
South Atlantic.....	22	22	2,566,901	2,566,901
East South Central.....	7	7	911,885	911,885
West South Central.....	8	6	1,124,564	1,023,013
Mountain.....	9	9	546,445	546,445
Pacific.....	6	3	1,797,839	1,275,841

FOREIGN AND INSULAR.

SMALLPOX ON VESSEL.

Steamship "Dront"—At Pernambuco, Brazil.

During the week ended September 20, 1924, a case of smallpox was removed from the steamship *Dront* at Pernambuco, Brazil, and placed in hospital. The vessel left Cadiz, Spain, for Buenos Aires, Argentina, August 20, 1924.

CUBA.

Certain Communicable Diseases—Provinces—July, 1924.

During the month of July, 1924, malaria, paratyphoid fever, and typhoid fever were reported in the provinces of the Island of Cuba as follows:

JULY 1-31, 1924.

Province.	Disease.		Typhoid fever.
	Malaria.	Paratyphoid fever.	
Camaguey.....	48		37
Habana.....	70	15	450
Matanzas.....		10	31
Oriente.....	193	1	97
Pinar del Rio.....	2	4	43
Santa Clara.....	6	1	73
Total.....	319	31	731

Quarantine Against Progreso—Yellow Fever.

Under date of October 14, 1924, quarantine on account of yellow fever was declared at ports in Cuba against arrivals from Progreso, Yucatan, Mexico.

ECUADOR.

Plague—Plague-Infected Rats.

During the period September 16 to 30, 1924, one case of plague was reported at Eloy Alfaro, Ecuador, and 10,304 rats were reported taken at Guayaquil, of which number 95 were found plague-infected.

EGYPT.

Plague—Suez.

A case of plague was reported at Suez, Egypt, during the week ended September 23, 1924.

JAVA.**Epidemic Smallpox.¹**

Under dates of August 29 and September 2, 1924, epidemic smallpox was declared present in the Residencies of Pasoeroean, Rembang, and Soerabaya, Island of Java.

MADAGASCAR.**Plague—Diego Suarez.²**

During the period June 22 to August 28, 1924, 43 cases of plague with 37 deaths were reported at Diego Suarez, Island of Madagascar, distributed according to date of occurrence as follows: June 22-30—cases, 5; deaths, 5; July 1-31—cases, 20; deaths, 16; August 1-28—cases, 18; deaths, 16.

Of the 43 cases reported, 32 were bubonic, 5 pneumonic, 6 septicemic. Of the 37 deaths, 26 were bubonic, 5 pneumonic, and 6 septicemic. The distribution according to sex and race was as follows: Male, 42; native, 40; Arab, Chinese, and Hindu one each.

On September 4, 1924, an additional case was reported at Diego Suarez.

UNION OF SOUTH AFRICA.**Plague—Smallpox—Typhus Fever.**

During the month of August, 1924, one case of plague with one death was reported in the Union of South Africa among the colored population.

During the same period, 37 cases of smallpox (colored population 36 cases, white population, one case) and 110 cases of typhus fever with 12 deaths in the colored population and one case in the white population; were reported in the Union of South Africa. For distribution of occurrence according to locality, see page 2815.

During the week ended September 13, 1924, outbreaks of smallpox were reported in the Orange Free State.

YUGOSLAVIA.**Communicable Diseases—January-June, 1924.**

During the period January to June, 1924, inclusive, communicable diseases were reported in Yugoslavia (Kingdom of the Serbs, Croats, and Slovenes) as follows:

Disease.	Cases	Deaths.	Disease.	Cases.	Deaths.
Paratyphoid fever.....	71	4	Typhoid fever.....	1,051	153
Relapsing fever.....	4		Typhus fever.....	232	14
Smallpox.....	308	62			

¹ Public Health Reports, Aug. 1, 1924, p. 1924; and Oct. 3, 1924, p. 2548.

² Public Health Reports, Sept. 5, 1924, p. 2336.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER.

The reports contained in the following tables must not be considered as complete or final as regards either the lists of countries included or the figures for the particular countries for which reports are given.

Reports Received During Week Ended November 7, 1924.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
India:				
Bombay.....	Sept. 7-13.....	4	1	
Calcutta.....	Sept. 14-27.....	17	7	

PLAGUE.

British East Africa:				
Kenya—				
Kisumu.....	Sept. 14-20.....		1	
Ecuador:				
Eloy Alfaro.....	Sept. 16-30.....	1		Rats taken at Guayaquil, 10,304; found infected, 95.
Egypt:				
Suez.....	Sept. 17-23.....	1		
India:				
Rangoon.....	Sept. 14-20.....	10	8	
Madagascar:				
Diego Suarez.....	June 22-Aug. 28.....	43	37	Bubonic—cases, 32; deaths, 26; pneumonic—cases, 5; deaths, 5; septicemic—cases, 6; deaths, 6. Sept. 4: 1 case.
Union of South Africa.....				Aug. 1-31, 1924: 1 case (colored).

SMALLPOX.

British South Africa:				
Northern Rhodesia.....	Sept. 2-8.....	7		
Canada:				
British Columbia.....	Sept. 12-Oct. 18.....	29		
Egypt:				
Alexandria.....	Sept. 3-9.....	1		
Cairo.....	July 9-Aug. 5.....	6	2	
Greece:				
Saloniki.....	July 28-Oct. 4.....		10	
India:				
Bombay.....	Sept. 6-13.....	6	4	
Calcutta.....	Sept. 14-27.....	15	15	
Rangoon.....	Sept. 14-20.....	1		
Java:				
Residencies—				
Paseroean.....	Aug. 29-Sept. 2.....			Epidemic in some localities.
Rembang.....	do.....			Do.
Soerabaya.....	do.....			Do.
Indo-China:				
Saigon.....	Aug. 14-20.....	4	2	
Mexico:				
Vera Cruz.....	Oct. 13-19.....		1	
Portugal:				
Lisbon.....	Sept. 7-28.....	8	1	
Oporto.....	Oct. 5-11.....		1	
Spain:				
Malaga.....	Oct. 5-11.....		11	
Switzerland:				
Berne.....	Sept. 20-27.....	2		
Union of South Africa.....				
Orange Free State.....	Sept. 7-13.....			Aug. 1-31, 1924: Cases, 37; colored, 36; white, 1 case.
Yugoslavia.....				Outbreaks
On vessel:				January-June, 1924: Cases, 308; deaths, 62.
Steamship Dront.....	Sept. 14-20.....	1		At Pernambuco, Brazil. Case removed to hospital. Vessel left Cadiz, Spain, Aug. 20, 1924.

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received During Week Ended November 7, 1924—Continued.

TYPHUS FEVER.

Place.	Date.	Cases.	Deaths.	Remarks.
Algeria:				
Algiers.....	Sept. 1-30.....	2		
Chile:				
Talcahuano.....	Sept. 21-Oct. 4.....		7	
Egypt:				
Cairo.....	July 16-Aug. 5.....	4	4	
Greece:				
Saloniki.....	Aug. 10-Sept. 27.....	2	2	
Spain:				
Malaga.....	Oct. 5-11.....		1	
Union of South Africa.....				Aug. 1-31, 1924: Cases, 110 (colored); 1 case in white population; deaths, 12 (colored).
Cape Province.....				Aug. 1-31, 1924: Cases, 72; deaths, 10 (colored).
Natal.....				Aug. 1-31, 1924: Cases, 3; deaths, 1 (colored).
Orange Free State.....				Aug. 1-31, 1924: Cases, 14; deaths, 1 (colored).
Transvaal.....				Aug. 1-31, 1924: Cases, 21 (colored).
Yugoslavia.....				January-June, 1924: Cases, 252; deaths, 14.

Reports Received from June 28 to October 31, 1924.¹

CHOLERA.

Place.	Date.	Cases.	Deaths.	Remarks.
China:				
Shanghai.....	Aug. 2-Sept. 6.....	1		
India.....				Apr. 20-June 28, 1924: Cases, 81,035; deaths, 56,740.
Do.....				June 29-Aug. 23, 1924: Cases, 61,437; deaths, 36,124.
Bombay.....	May 4-10.....	1		
Do.....	June 29-Sept. 6.....	39	22	
Calcutta.....	May 11-June 28.....	293	259	
Do.....	June 29-Sept. 13.....	1,651	243	
Madras.....	June 1-21.....	7	6	
Do.....	June 29-Sept. 20.....	29	17	
Rangoon.....	May 11-June 28.....	98	76	
Do.....	June 29-Aug. 23.....	24	22	
Indo-China.....				Jan. 1-June 30, 1924: Cases, 107; deaths, 52.
				Corresponding period 1923: Cases 57; deaths, 32.
Province—				
Anam.....	June 1-30.....	4	1	June, 1923: 1 case.
Cambodia.....	do.....	7	4	June, 1923: Cases, 13; deaths, 4.
Cochin-China.....	do.....	9	6	June, 1923: Cases, 40; deaths, 28.
Saigon.....	Apr. 27-June 28.....	6	4	Including 100 square kilometers of surrounding country.
Do.....	June 29-Aug. 9.....	6	5	Do.
Tonkin.....	June 1-30.....	9	4	June, 1923: 3 cases.
Persia:				
Bushire.....	do.....	1	1	

¹ From medical officers of the Public Health Service, American consuls, and other sources.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

CHOLERA—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Philippine Islands.....				June 15-28, 1924: 32 cases, 22 deaths, including suspects. June 29-July 5, 1924: 5 cases, 4 deaths.
Manila.....	June 22-28.....	1		Suspect. Occurring in a non-resident.
Do.....	July 6-12.....	1	1	
Provinces—				
Batangas.....	July 1-12.....	4	3	
Bulacan.....	June 21.....	1	1	
Do.....	June 28-July 26.....	4	2	
Angat.....	July 20-26.....	1	1	
Malolos and Paombong.....	July 13-19.....	2	1	
Cagayan.....	Mar. 30-Apr. 5.....	1	1	
Laguna.....	May 18-24.....	1	1	
San Pablo.....	July 13-19.....	1	1	
Rizal.....	July 3.....	1	1	
Santo Tomas.....	July 6-12.....	1	1	
Russia.....				Summer of 1924: Cases, 9.
Don Province.....				7 cases at Rostov and Nakhichevan.
Kuban.....				1 case, Black Sea district.
Moscow Province.....				1 case in Kolomensky Uyezd.
Rostov-on-Don.....	Aug. 5-7.....	3		
Siam:				
Bangkok.....	May 4-June 28.....	21	18	
Do.....	June 29-Sept. 6.....	10	4	
Straits Settlements:				
Penang.....	June 1-7.....	1	1	
Singapore.....	June 15-28.....	9	6	
Do.....	June 29-July 5.....	2	1	
On vessel:				
S. S. Argalia.....		1		At Bassein, Lower Burma, India. Case in European member of crew. Case removed to hospital. Vessel left May 16, 1924, arrived June 8 at Durban, South Africa; left Durban June 10 for Trinidad and Cuba.

PLAGUE.

Algeria:				
Mostaganem.....	July 21-28.....	4		Seaport.
Argentina:				
Chaco Territory.....				April, 1924: Cases reported.
Brazil:				
Porto Alegre.....	July 6-12.....		1	
British East Africa:				
Kenya—				
Kisumu.....	July 13-Aug. 16.....	2		
Tanganyika Territory:	Feb. 24-June 7.....	1	2	
Do.....	June 26-July 3.....	3	2	
Uganda.....				
Entebbe.....	Feb. 1-Apr. 30.....	59	54	May 1-31, 1924: Cases, 28; deaths, 23. June 1-30, 1924: Cases, 97; deaths, 84.
Canary Islands:				
Las Palmas.....	Sept. 8.....	1		
Teneriffe—				
La Laguna.....	June 20.....	1		
Celebes:				
Macassar and Menando.....	July 27-Aug. 2.....			1 plague rat.
Ceylon:				
Colombo.....	May 11-June 28.....	11	7	10 plague rodents.
Do.....	June 29-Sept. 13.....	19	18	Plague-infected rodents, 17.
Chile:				
Antofagasta.....	June 1-16.....	4		
China:				
Amoy.....	June 15-28.....		4	
Do.....	June 29-Aug. 9.....		13	
Foochow.....	May 4-June 21.....		25	Cases not reported.
Nanking.....	July 20-Aug. 16.....			Present.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Ecuador:				
Eloy Alfaro.....	May 16-31.....	1	—	
Guayaquil.....	May 16-June 30.....	5	1	Rats taken, 23,717; found infected, 107.
Do.....	July 1-Aug. 31.....	2	—	Rats taken, 34,185; found plague-infected, 93.
Posorja.....	July 1-15.....	1	—	
Puna.....	July 16-31.....	1	—	
Egypt				July 2-Sept. 5, 1924: Cases, 19. Total, Jan. 1-Sept. 5, 1924—cases, 354; deaths, 177; corresponding period, preceding year—cases, 1,337.
City—				
Alexandria.....		1	1	First case, Apr. 2; last, Apr. 2.
Ismailia.....		1	1	First case, July 6; last, July 6.
Port Said.....		5	2	First case, Apr. 24; last, Aug. 26.
Suez.....		15	8	First case, Jan. 2; last, Aug. 10.
Province—				
Assiout.....		44	35	First case, Apr. 1; last, Aug. 27.
Behera.....		1	1	First case, Aug. 9; last, Aug. 9.
Beni-Suef.....		3	3	First case, June 21; last, June 21.
Charkieh.....		1	1	First case, Jan. 31; last, Jan. 31.
Fayoum.....		106	33	First case, Feb. 18; last, July 18.
Gharbia.....		3	2	First case, Apr. 21; last, Aug. 22.
Ghirga.....		10	3	First case, Jan. 17; last, May 13.
Kalioubiah.....		10	1	First case, Jan. 6; last, May 22.
Kena.....		44	26	First case, Apr. 9; last, May 17.
Menoufieh.....		49	32	First case, Jan. 2; last, June 28.
Minia.....		58	28	First case, Feb. 5; last, Aug. 1.
Greece:				
Kalamata.....				Reported July 15, 1924: Cases, 29; deaths, 6.
Patras.....	July 7.....	36	—	
Saloniki.....	July 3-4.....	2	—	
Symi, Island of.....				Reported present in August, 1924: Cases, 10; deaths, 2.
Hawaii				July 15, 1924: Near Kukuiahae, Island of Hawaii, 1 plague rat.
Honokaa.....				Aug. 19-Sept. 10, 1924: 5 plague-infected rodents found in vicinity.
India				Apr. 20-June 28, 1924: Cases, 102,874; deaths, 84,656.
Do.....				June 29-Aug. 23, 1924: Cases, 4,415; deaths, 3,705.
Bombay.....	May 4-June 21.....	50	44	
Do.....	June 29-Aug. 30.....	20	16	
Calcutta.....	May 11-June 14.....	10	10	
Karachi.....	May 18-June 21.....	16	13	
Do.....	Aug. 17-Sept. 20.....	7	7	
Madras Presidency.....	May 18-31.....	7	2	
Do.....	Aug. 3-Sept. 6.....	42	25	
Rangoon.....	May 11-June 28.....	77	72	
Do.....	June 29-Sept. 13.....	196	167	
Indo-China				Jan. 1-June 30, 1924: Cases, 734; deaths, 486.
Province—				
Anam.....	June 1-30.....	6	5	June, 1923: Cases, 11; deaths, 10.
Cambodia.....	do.....	18	18	June, 1923: Cases, 140; deaths, 121.
Cochin-China.....	do.....	4	—	June, 1923: Cases, 14; deaths, 10.
Saigon.....	May 4-June 28.....	10	2	Including 100 square kilometers of surrounding country.
Do.....	July 20-Aug. 9.....	3	1	Do.
Iraq:				
Bagdad.....	Apr. 20-June 28.....	125	62	
Do.....	June 29-Aug. 9.....	7	4	
Japan				July 1-31, 1924: 1 case, 1 death.
Shizuoka Prefecture—				Jan.-July, 1924: Cases, 4; deaths, 3.
Higashi.....				To June 20, 1924: Cases, 2; death, 1.
Java:				
East Java—				
Soerabaya.....	June 8-21.....	14	14	
Madagascar:				
Diego Suarez.....	June 22-July 10.....	14	8	Seaport.
Moramanga.....	June 1-30.....	1	1	Interior.
Tamatave.....	June 6-30.....	5	4	Bubonic.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

PLAGUE—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Madagascar—Continued.				
Tananarive Province.....				
Tananarive Town.....	Apr. 1-June 30.....	12	12	Apr. 1-June 30, 1924: Cases, 138; deaths, 128; bubonic, pneumonic, septicemic, July 1-Aug. 15, 1924: Cases, 74; deaths, 72.
Do.....	July 1-31.....	5	5	Bubonic and pneumonic.
Other localities.....	Apr. 1-June 30.....	105	97	
Do.....	July 1-31.....	48	48	Bubonic, pneumonic, and septicemic.
Persia:				
Abadan.....	May 1-31.....	20	12	
Bander Abbas.....	do.....	11	6	
Bushire.....	do.....	1	1	Landed at quarantine.
Mohammerah.....	do.....	111	78	
Peru				
Do.....				May 1-June 30, 1924: Cases, 9; deaths, 6.
				July 1-31, 1924: Cases, 6; deaths, 3.
Callao.....	June 1-30.....	1		
Do.....	July 1-31.....	2		
Huaral.....	June 1-30.....	1		
Do.....	July 1-31.....	1		
Lima (city).....	May 1-June 30.....	5	5	
Do.....	July 1-31.....	6	3	
Lima (country).....	May 1-June 30.....	1		
Do.....	July 1-31.....		1	
Mollendo.....	May 1-31.....	1	1	
Russia:				
Don Cossack Territory—Salsky District.....				Aug. 8, 1924: Reported present in marmots in 6 localities.
Siam:				
Bangkok.....	May 4-June 14.....	3	3	
Do.....	July 13-Aug. 2.....	2	2	
South Nigeria (West Africa):				
Lagos.....	Sept. 8.....			Present.
Syria:				
Beirut.....	July 10-Aug. 20.....	7		
Tunis:				
Tunis.....	Sept. 23-29.....	1	1	
Union of South Africa				
				Apr. 27-June 7, 1924: Cases, 28, deaths, 14. Dec. 16, 1923, to May 31, 1924: Cases, 347; deaths, 298 (white, 51 cases, 26 deaths; native, 289 cases, 182 deaths). July 1-31, 1924: Cases, 4; deaths, 2.
Orange Free State.....				May 11-June 14, 1924: Cases, 21; deaths, 9. June 22-28, 1924: Plague-infected mouse found in Kroonstad District.
Philippolis District.....	Aug. 24-30.....	1	1	In natives on two farms.
Smithfield District.....	July 13-19.....	2		
On vessel:				
S. S. Amboise.....	July 10.....	1		At Marseille, France; removed to quarantine station. Case occurred in an Arab fireman embarked at Aden. Vessel left Yokohama May 30 and Colombo, Ceylon, June 22, 1924.

SMALLPOX.

Arabia:				
Aden.....	July 20-26.....		1	
Bolivia:				
La Paz.....	May 1-June 30.....	10	9	
Do.....	July 1-Aug. 31.....	21	12	
Brazil:				
Bahia.....	May 18-24.....	1		
Porto Alegre.....	May 18-June 28.....	1	2	
Do.....	July 6-Aug. 2.....		3	
Rio de Janeiro.....	May 18-24.....	2		
Do.....	July 20-Aug. 30.....	5		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
British East Africa:				
Kenya—				
Mombasa	May 4-31	3		
Tanganyika Territory	June 15-21	1		
Do.	Aug. 17-23	1		
Uganda—				
Entebbe	Feb. 1-20	2		
British South Africa:				
Northern Rhodesia	May 6-June 30	74	1	Natives.
Do.	July 1-Aug. 25	42		
Canada:				
British Columbia—				
Vancouver	June 15-28	11		
Do.	June 29-Oct. 11	43		Not including suburbs.
Victoria	Aug. 3-9	1		
Manitoba—				
Winnipeg	July 13-Aug. 1	3		
New Brunswick—				
Restigouche County	June 1-30	7		
Do.	July 6-Sept. 6	21		
Westmoreland County	Aug. 17-23	1		
Ontario				June 1-30, 1924: Cases, 24. July 1-Sept. 27, 1924: Cases, 20.
Sarnia	July 20-26	1		
Windsor	June 22-28	1		
Quebec—				
Montreal	June 8-14	1		
Do.	Sept. 14-20	1		
Ceylon:				
Colombo	July 6-12	1		
Chile:				
Antofagasta	June 11			Under treatment at lazaretto, 2 cases.
Do.	Aug. 24-30	1		
Valparaiso	June 1-7		1	This report covers the two principal districts of Valparaiso.
China:				
Amoy	May 11-June 28			Present.
Do.	June 29-Sept. 13		1	Do.
Antung	June 9-20	41	3	
Do.	July 7-13	4		
Chungking	May 11-June 28			Do.
Do.	June 29-Sept. 13			Do.
Foochow	May 18-June 28			Do.
Do.	July 6-Aug. 29			Do.
Hongkong	May 4-June 28	30	24	
Do.	June 29-July 12	3	3	
Manchuria—				
Dairen	May 12-June 28	22	7	
Do.	June 29-Aug. 3	5	1	
Harbin	May 13-June 23	2		
Nanking	May 18-June 28			Do.
Do.	July 6-Sept. 13			Do.
Shanghai	May 25-31		1	
Tientsin	May 4-June 28	11	1	British municipality.
Chosen:				
Fusan	May 1-31	1		
Do.	July 25-31	1		
Colombia:				
Barranquilla	Aug. 3-9		1	
Cuba:				
Matanzas	Sept. 1-30	1		
Czechoslovakia				Apr. 1-June 30, 1924: Cases, 7; deaths, 2.
State—				
Bohemia	Apr. 1-June 30	6	2	
Russia	do.	1		
Denmark:				
Copenhagen	May 18-31	3	1	
Dominican Republic:				
La Romana	Aug. 24-30	2		
Egypt:				
City—				
Alexandria	June 4-10	1		
Cairo	Feb. 19-June 24	163	45	
Do.	June 25-July 8	9		
Port Said	June 18-24	1	2	
Do.	June 25-Sept. 9	4		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
France:				
Limoges.....	Apr. 1-May 31.....	-----	2	
Marseille.....	May 1-31.....	-----	1	
Paris.....	May 21-31.....	2		
Gibraltar.....	July 21-Sept. 21.....	8		
Great Britain:				
England and Wales.....				May 25-June 28, 1924: Cases, 342;
Counties—				June 29-Oct. 4, 1924: Cases,
Derby.....	May 25-June 28.....	159		695.
Do.....	June 29-Oct. 4.....	159		
London.....	June 29-Aug. 30.....	3		
Northumberland.....	May 25-June 28.....	61		
Do.....	June 29-Oct. 4.....	134		
Nottingham.....	May 25-June 28.....	29		
Do.....	June 19-Oct. 4.....	103		
Yorks (North Rid- ing).....	May 25-June 28.....	54		
Do.....	June 29-Oct. 4.....	118		
Yorks (West Rid- ing).....	May 25-June 28.....	5		
Do.....	June 29-Oct. 4.....	44		
Liverpool.....	Aug. 28.....	1		Mild. Admitted to port hospital from Lower Bebington dis- trict, 2 miles from docks.
Greece:				
Saloniki.....	Apr. 21-June 29.....	7	21	
Do.....	June 30-July 27.....	-----	31	
Haiti:				
Port au Prince.....	July 6-12.....	2		Developed at Cape Haitien.
Hungary:				
Budapest.....	July 20-Aug. 2.....	11		
India.....				Apr. 20-June 28, 1924: Cases,
Do.....				28,396; deaths, 6,753.
Bombay.....	May 4-June 28.....	432	299	June 29-Aug. 23, 1924: Cases,
Do.....	June 29-Sept. 6.....	190	122	8,735; deaths, 2,228.
Calcutta.....	May 11-June 28.....	36	32	
Do.....	July 6-Sept. 13.....	63	48	
Karachi.....	May 18-June 28.....	51	18	
Do.....	June 29-Sept. 13.....	35	16	
Madras.....	May 18-June 28.....	32	10	
Do.....	June 29-Sept. 20.....	144	47	
Rangoon.....	May 11-June 28.....	53	21	
Do.....	June 29-Sept. 13.....	30	12	
Indo-China.....				Jan. 1-June 30, 1924: Cases, 4,934;
Province—				deaths, 1,413.
Anam.....	June 1-30.....	23	2	June, 1923: Cases, 2.
Cambodia.....	do.....	35	21	June, 1923: Cases, 156.
Cochin-China.....	do.....	145	55	June, 1923: Cases, 70; deaths, 35.
Saigon.....	Apr. 27-June 28.....	145	79	Including 100 sq. km. of sur- rounding country.
Do.....	June 29-Aug. 23.....	51	21	Do.
Tonkin.....	June 1-30.....	31	2	June, 1923: Cases, 18.
Iraq:				
Bagdad.....	Apr. 26-May 24.....	8	1	
Do.....	July 27-Aug. 2.....	1		
Italy:				
Messina.....	May 26-June 1.....	1		
Jamaica.....				June 1-28, 1924: Cases, 141. June
Kingston.....	June 1-28.....	6		29-Sept. 13, 1924: Cases, 217.
Do.....	June 29-Sept. 13.....	20		(Reported as alastrim.)
Japan.....				Reported as alastrim.
Kobe.....	May 26-June 21.....	3		Do.
Nagoya.....	June 8-14.....	2		July 1-31, 1924: Cases, 51; deaths,
Tokyo.....	do.....	1		9; Jan. 1-July 31, 1924: Cases,
Java:				1,693; deaths, 264.
East Java—				
Madoera Residency—				
Sampang.....	May 22.....			Epidemic.
Malang.....	May 25-31.....	5	1	
Paseroean Residency.....	July 4-26.....	7		
Soerabaya.....	Apr. 13-June 28.....	501	143	
Do.....	June 29-Aug. 30.....	610	75	Epidemic Aug. 10, 1924, in 4
West Java—				localities.
Batavia.....	May 31-June 27.....	3		
Do.....	July 6-Aug. 22.....	6		Province.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Latvia.....				Apr. 1-June 30, 1924: Cases, 3 July 1-31, 1924: Case, 1.
Mexico:				
Durango.....	June 1-30.....		2	
Do.....	Sept. 1-30.....		1	
Guadalajara.....	May 1-June 30.....	9	4	
Do.....	July 8-14.....		1	
Mexico City.....	May 4-June 28.....	96		Including municipalities in Federal district.
Do.....	June 29-Sept. 20.....	72		Do.
Salina Cruz.....	May 25-31.....	1	1	
Tampico.....	June 14-20.....	2		
Do.....	July 1-Aug. 20.....	8	7	
Tuxtepec.....	July 3-18.....	3	1	State of Oaxaca.
Vera Cruz.....	Sept. 21-27.....		1	
Palestine:				
Samaria Province—				June 17-23, 1924: 20 cases in northern districts.
Samak.....	May 27-June 2.....	1		
Paraguay:				
Asuncion.....	June 2.....			Present.
Encarnacion.....	do.....			Many cases reported.
Persia:				
Bushire.....	June 1-30.....	2		
Peru:				
Arequipa.....	Jan. 1-June 30.....		5	
Poland.....				Mar. 30-June 28, 1924: Cases, 290; deaths, 27.
Do.....				June 29-July 27, 1924: Cases, 25; deaths, 5.
Portugal:				
Lisbon.....	May 25-June 28.....	7	2	
Do.....	June 29-Sept. 7.....	20	4	
Oporto.....	May 11-June 28.....	18	16	
Do.....	June 29-Oct. 4.....	21	24	
Russia.....				Jan. 1-31, 1924: 2,243 cases.
Moscow.....	July 27-Aug. 9.....	37		
Siam:				
Bangkok.....	Apr. 27-June 14.....	3	5	
Spain:				
Barcelona.....				Year 1923: Cases, 100.
Do.....	Aug.-Sept.....	23	2	
Cadiz.....	June 1-30.....		5	
Do.....	July 1-Aug. 31.....		77	
Madrid.....	Aug. 1-31.....		1	
Malaga.....	June 29-Oct. 4.....	8	46	
Santander.....	Aug. 24-30.....		4	
Valencia.....	June 8-21.....	3		Oct. 6, 1924: Increase in prevalence reported.
Do.....	July 13-Sept. 27.....	2	1	
Vigo.....	Aug. 17-23.....		1	
Straits Settlements:				
Singapore.....	May 4-24.....	2	1	
Sumatra:				
Medan.....	Jan. 1-31.....	5		
Switzerland:				
Berne.....	May 25-June 28.....	22		
Do.....	June 29-Sept. 20.....	11		
Lucerne.....	Aug. 1-31.....	12		
Syria:				
Damascus.....	May 28-June 12.....	12		
Do.....	Aug. 7-13.....	6		
Tunis:				
Tunis.....	May 27-June 30.....	17	4	
Do.....	July 1-Oct. 6.....	12	17	
Turkey:				
Constantinople.....	June 1-7.....	1		
Do.....	Aug. 17-23.....	1		
Union of South Africa.....				Mar. 1-June 30, 1924: Cases, 167 (white, 15; native, 152); 1 death. June 29-July 31, 1924: 12 native deaths; 3 white cases.
Cape Province.....	May 4-31.....			Outbreaks.
Do.....	July 20-Aug. 23.....			Do.
East London.....	July 27-Aug. 2.....	1		
Orange Free State.....	May 4.....			Do.
Do.....	Aug. 24-Sept. 6.....			Do.

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

SMALLPOX—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Union of South Africa—Con.				
Transvaal	May 4-31			Outbreaks.
Do.	July 20-Aug. 23			Do.
Johannesburg	July 6-12	1		
Yugoslavia:				
Belgrade	July 28-Aug. 3	1		Do.
On vessels:				
S. S. Karoa	May 7	1		At Durban, South Africa, from Bombay, India. Vessel left Bombay Apr. 16, 1924. Patient, European.
S. S. Mount Evans	July 8	1		At Key West, Fla., from Manchester, England.

TYPHUS FEVER.

Algeria:				
Algiers	May 1-June 30	24	9	Year 1923: Cases, 1,166, of which 27 were in the military population.
Do.	July 1-31	1		
Bolivia:				
La Paz	do.		1	
Brazil:				
Porto Alegre	June 1-7		1	
Bulgaria:				
Sofia	Aug. 17-23		1	
Chile:				
Antofagasta				June 16, 1924: 2 cases in Lazaretto.
Concepcion	May 20-26		3	
Do.	July 8-21		3	
Iquique	June 22-28		1	
Talcahuano	May 25-31	2		
Do.	June 29-Sept. 20	28	28	Aug. 30, 1924: 53 cases reported present. Sept. 6, 1924: About 45 cases in vicinity.
Valparaiso	May 25-June 21		11	
Do.	June 29-Sept. 20		33	
China:				
Antung	June 2-16	6		
Chungking	May 11-June 14			Present.
Manchuria—				
Harbin	Sept. 17-23	2		
Chosen:				
Chemulpo	May 1-June 30	10		
Do.	July 1-31	6	2	
Seoul	May 1-June 30	43	5	
Do.	July 1-31	2		
Czechoslovakia:				Apr. 1-June 30, 1924: Cases, 6.
State—				
Slovakia	Apr. 1-June 30	4		
Egypt:				
Alexandria	June 25-Aug. 26	5	1	
Cairo	Feb. 19-June 24	53	16	
Do.	June 25-July 1	1		
Port Said	July 24-Aug. 5	3		
Estonia				Apr. 1-June 30, 1924: Cases, 37. July 1-31, 1924: Cases, 2.
Germany:				
Coblenz	July 13-19	2		
Great Britain:				
England—				
St. Helens	July 13-Sept. 20	8	3	One suspect case; July 10, 1924. Locality, vicinity of Liverpool.
Ireland—				
Dublin	June 8-14	1		
Do.	July 13-19	1		
Lismore	July 19	1		
Longford	do.	1		
Greece:				
Saloniki	Apr. 20-May 4	6		
Iraq:				
Bagdad	Apr. 27-May 10	2		
Do.	Aug. 3-9	1		
Japan				July 1-31, 1924: Cases, 2. Jan. 1-July 31, 1924: Cases, 8; deaths, 1. Apr. 1-June 30, 1924: Cases, 108.
Latvia:				
City—				
Riga	June 1-30	1		

CHOLERA, PLAGUE, SMALLPOX, TYPHUS FEVER, AND YELLOW FEVER—Continued.

Reports Received from June 28 to October 31, 1924—Continued.

TYPHUS FEVER—Continued.

Place.	Date.	Cases.	Deaths.	Remarks.
Mexico:				
Durango.....	July 1-31.....	2	2	
Guadalajara.....	May 1-June 30.....	2	2	
Mexico City.....	May 4-June 28.....	59		Including municipalities in Federal district.
Do.....	June 29-Sept. 20.....	93		Do.
Torreón.....	July 1-Aug. 31.....		4	
Palestine:				
Acre.....	Aug. 19-25.....	1		
Jaffa.....	June 17-23.....	1		
Do.....	July 8-Aug. 25.....	2		
Jerusalem.....	July 1-Sept. 8.....	6		
Kantara.....	July 15-21.....	1		
Khulde.....	Aug. 17.....	1		
Safad.....	Aug. 25-Sept. 1.....	1		
Tiberias.....	Aug. 19-25.....	1		
Peru:				
Arequipa.....	Jan. 1-June 30.....		4	
Do.....	July 1-Aug. 31.....		3	
Poland.....				Mar. 30-June 28, 1924: Cases, 2,947; deaths, 277.
Do.....				June 29-July 27, 1924: Cases, 332; deaths, 23.
Portugal:				
Oporto.....	June 15-21.....		1	
Russia.....				Jan. 1-31, 1924: Cases, 14,275.
Moscow.....	July 27-Aug. 9.....	4		
Spain:				
Barcelona.....	July 10-16.....		1	
Malaga.....	Sept. 6-13.....		1	
Syria:				
Aleppo.....	June 8-14.....	1		
Damascus.....	July 14-20.....	1		
Tunis:				
Tunis.....	May 27-June 9.....	4		
Turkey:				
Constantinople.....	May 18-June 21.....	7	2	
Do.....	July 6-Sept. 13.....	10	13	
Union of South Africa.....				Mar. 1-June 30, 1924: Cases, 418; deaths, 45. July 1-31, 1924: Cases, 101; deaths, 19. (Colored, 93 cases; white, 8 cases.)
Cape Province.....				Mar. 1-June 30, 1924: Cases, 249; deaths, 23.
Do.....				July 1-31, 1924: Cases, 50; deaths, 6. Aug. 17-30, 1924: Outbreaks.
Natal.....				Mar. 1-June 30, 1924: Cases, 27; deaths, 5. July 1-31, 1924: Cases, 9.
Do.....	July 6-Aug. 2.....			Outbreaks.
Durban.....	Apr. 20-June 8.....	2		
Orange Free State.....				Mar. 1-June 30, 1924: Cases, 83; deaths, 11. July 1-31, 1924: Cases, 26; deaths, 11. Aug. 24-30: Outbreaks in the Hoopstad district.
Transvaal.....				Mar. 1-May 31, 1924: Cases, 39; deaths, 5. July 1-31, 1924: Cases, 8; deaths, 2. Aug. 17-23, 1924: Outbreaks.
Johannesburg.....	May 11-24.....	2		
Do.....	June 29-Sept. 13.....	3		
Yugoslavia:				
Zagreb.....	Sept. 7-13.....	1		

YELLOW FEVER.

Brazil:				
Pernambuco.....	May 11-17.....	2	1	
Salvador:				
San Salvador.....	June 10-Aug. 25.....			Present in San Salvador and vicinity.